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HEALTH OF THE NAVY.

RETURN to an Order of the Honourable The House of Commons, dated 26 March 1868;—*for*,

A COPY

OF THE

STATISTICAL REPORT

OF THE

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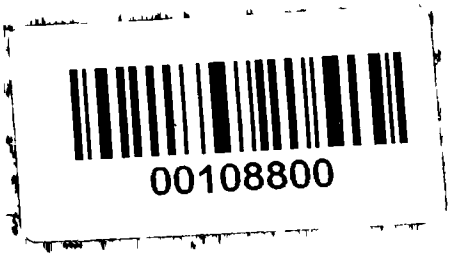
HEALTH OF THE NAVY,

FOR THE YEAR 1865.

(*Lord Henry Lennox*)



Ordered, by The House of Commons, *to be Printed*,
26 *March* 1868.

INTRODUCTORY.

THE following Report gives a very favourable view of the sanitary condition of the Royal Navy in 1865. Compared with the preceding year, there was a reduction in the ratio of mortality to the extent of 2·7 per 1,000 of mean force, and of invaliding to the extent of 2·5 per 1,000. There was also a slight reduction in the ratio of cases entered on the sick list.

On the Home Station, small-pox, which had prevailed so extensively during the preceding year, was almost altogether absent, and the same may be said of yellow fever on the North American and West Indian Station. On the other hand, cholera appeared in the Mediterranean, and occasioned great mortality amongst the civil and military population of Malta. Fortunately the removal of the squadron from that island, as soon as it was found to be infected, as well as the watchful care taken of the crews of the various ships, prevented any severe outbreak amongst them. Only ten cases of the disease occurred in the large naval force employed on the station; but of these, seven proved fatal. In every instance the disease was traceable to communication with an infected locality.

On the West Coast of Africa, yellow fever prevailed in a very virulent form in one or two vessels, and occasioned much mortality. A detailed history of these epidemics will be found in the report on that station.

Small-pox and syphilis prevailed in the squadron in China as a result mainly of communication with Japan. The loss annually sustained by the Navy from small-pox, indicates the propriety of considering whether it may not be advisable to introduce a system of periodical re-vaccination into the service. It matters not what view may be entertained as to

Introductory.

the cause of the failure of the protective influence of the primary vaccination in these cases,—whether it be due to the operation having been unsuccessfully performed, or to the gradual exhaustion of the protecting power through the changes undergone by the body in the course of time,—the facts remain to be considered, that every now and then there occur epidemics of small-pox of greater or less severity, and not unfrequently attended with much mortality, amongst the crews of vessels of war, many of whom show good vaccination cicatrices,—and that re-vaccination is the only measure likely to cope successfully with the evil. It has been frequently observed in these Returns, that there is no condition in life more favourable to the spread of infectious diseases, or where the segregation of the infected is more difficult, than on board a vessel of war, and so exceptional is the service in this respect, that it becomes necessary to advocate protective measures which might be considered quite uncalled for in civil life. Fortunately, in the present instance, the remedy is as effective as its application would be simple, and hardly productive even of inconvenience either to the individual or the service.

The great prevalence of syphilis in the seaports of Japan, and the destructive influence it is exerting upon our squadron there, call for anxious consideration. The Japanese authorities appear perfectly indifferent to the evil, and but little disposed to interfere with it, although from the fact that the source from which it proceeds is strictly under government regulation, there could be no difficulty in putting an effective check upon it at once. Very interesting observations on this disease and on small-pox, as they appeared in the squadron in China, will be found in the Report on that Station.

The testimony of medical officers appears to be largely in favour of the use of distilled water for drinking purposes in the rivers of China, and in all localities where intestinal affections are endemic or epidemic. The additional expense that might be incurred by the adoption of such a measure would, it is said, be more than compensated for by the comparative immunity it would confer from these painful and often fatal diseases.

It

It has been thought desirable to add an Appendix to these Reports for the purpose of introducing information which, although not strictly of a statistical character, may be considered of value to the public service, and interesting to naval medicine. In the Appendix to the present Report will be found interesting contributions to the Meteorology, Natural History, and Medical Topography of Somerset, Cape York, Northern Australia, a new settlement; on the Meteorology, Course of the Seasons, and Medical Topography of Shanghai; as well as several papers of medical and surgical interest.

ALEX. E. MACKAY, M.D.

Admiralty, Somerset House,
28 May 1868.

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HOME STATION.

Home Station.

DURING the year 1865 sixty-eight vessels were employed at the various ports comprised in the Home Station and in the Channel Fleet. Only thirty of these were sea-going vessels; viz., nine iron-clads; two vessels of the second rate; three of the fourth rate; and one of the sixth rate; one sloop; six steam-vessels; two yachts; two store ships; and four brigs. The remainder were, for the most part, stationary ships employed variously, as flag ships, receiving ships, drill ships, and coast guard and training ships. The returns from fifty-seven of the vessels are for the whole year, and from the remainder for periods varying from one to eleven months. The mean force corrected for time was 20,980, and the total number of cases of disease and injury entered on the sick-list 21,507, being in the ratio of 1025·1 per 1,000 of mean force, which is a decrease, as compared with the preceding year, equal to 46·1 per 1,000. Of these 543 were invalided, and 151 died, the former being in the ratio of 25·8, and the latter of 7·1, per 1000, both of which ratios are below those of the previous year.

The daily loss of service from all forms of febrile disease was in the ratio of ·8 per 1,000 of mean force; from diseases of the brain and nervous system, ·6; of the respiratory organs, 6·; of the heart and blood vessels, ·7; of the alimentary canal, ·7; of the liver, ·1; from diseases of the genito-urinary organs, 13·4, of which 10·8 resulted from syphilis alone; from rheumatism, 3·5; gout, ·1; from diseases of the bones and joints, ·2; from diseases of the special senses, ·6; of the skin and cellular tissue, 9·8; from diseases not classed, 1·2; and from wounds and injuries of various kinds, 5·3. The average number of men sick daily was 954·5, being in the ratio of 45·4 per 1,000 of mean force,

Home Station.

which is a slight reduction as compared with the previous year.

Fevers.—There were 239 cases of continued and remittent fever; 130 of intermittent fever; eighteen of small-pox; forty of measles; thirty-six of scarlatina; eleven of varicella; and five of vaccinia, under treatment during the year; and of these four cases of ague were invalided, and thirteen of continued fever proved fatal. The average duration of each case of primary fever on board ship and in hospital was between sixteen and seventeen days; of each case of ague, about eleven days; of each case of small-pox, forty-three days; of each case of measles, between fifteen and sixteen days; of each case of scarlatina, over thirty days; of each case of varicella, between eight and nine days; and of each case of vaccinia, between three and four days.

Continued and Remittent Fevers.—There were four cases of primary fever in the Achilles, two of which proved fatal. Three of the four cases are said to have been of the enteric type, and with reference to them the Surgeon* remarks:—

"Two of these cases had the characteristic rash, and can be traced in their origin to the same source. One, a seaman, was placed on the sick list on the 30th of January. He was of a cachectic habit of body, and had joined the ship at Sheerness, labouring under secondary syphilis. He was on shore on the 27th of January, and spent the day, night, and part of the following day in one of the lowest haunts of vice in Stonehouse, where I found, on inquiry, fever existed at the time. He was drunk while on shore, and did not remember the particular house in which he slept. On the 2nd of February there was abdominal tenderness, diarrhœa, and a few rose-coloured spots appeared on the chest. He was sent to Plymouth hospital, where he died on the 5th of February."

The other fatal case occurred in the person of an officer's servant, who was placed on the sick-list on the 22nd of August, at Brest, in France. He stated that he felt well until the afternoon of the 21st. This man had been last on shore on the 19th of July, when he spent nineteen hours in a brothel, in the same place in which the first case contracted the disease. In this instance there was great irritability of stomach,

* Surgeon G. F. A. Drew.

stomach, diarrhœa, and rapidly increasing prostration, despite the free use of diffusible stimulants. A rose rash appeared on the 24th, and he expired on the evening of that day. Post-mortem examination of the body revealed ulceration of the glands in the lower half of the ileum. Intermediate between these two cases was that of a seaman, who was placed on the sick-list on the 24th of June, complaining of abdominal pain and diarrhœa. There was much general pyrexia in this case, a hot and dry skin, sordes on the teeth, and great prostration of the nervous system. He was discharged on the following day to Plymouth hospital, where he recovered.

There was a single case of primary fever in the Arethusa, which proved fatal in hospital. It occurred in the person of a mess servant, of a spare, strumous habit of body, who, while the ship was fitting out at Sheerness, had been permitted to sleep on shore every night. He had felt weak and listless and generally unwell for two days before he presented himself for admission to the sick-list, on which he was placed on the 14th of September. On the 17th the teeth and gums were covered with sordes, and a few dusky-red spots appeared over the abdomen. Low muttering delirium had set in, but he answered questions rationally when roused. He was discharged to hospital on the following day, and on the 21st of September he died. No post-mortem examination of the body was made, the symptoms, it is stated, being sufficiently well marked to render it unnecessary.

In the Asia there were seven cases of primary fever, one of which proved fatal. In that instance the disease appears to have been complicated with phthisis. The other cases were of a trivial character.

There were twenty-five cases of primary fever in the Cambridge, of which nine were of the continued type, two were remittent, and fourteen ephemeral. Two of the cases of continued fever proved fatal in hospital. In one of these, death was caused by double pneumonia, with bronchial effusion. The other fatal case occurred in the person of a marine, who at the onset of the disease appears to have presented decided pneumonic symptoms. The type of fever, however, was enteric, and he died in hospital on the twelfth day after being placed on the sick-list.

There were seven cases of primary fever in the Canopus, one of which proved fatal. This occurred in the person of a

Home Station.

petty officer, who presented himself on the 29th of November, complaining of great debility, headache, nausea and vomiting. He had rigors, and cramps in the extremities. He was discharged to Plymouth hospital on the 1st of December, at which time he was weak and depressed, and in a state of low wandering delirium. The breathing was hurried (44 in a minute), and the pulse weak and thready, 124. On examining the chest, respiration was found to be dry and tubular at the base of the lungs, and puerile at the apices. The hands were bluish but not cold, and there was epistaxis. In the evening the breathing was very much hurried, and he had passed two watery offensive stools in bed. There was frequent dry cough, and pneumonic crepitus at the base of each lung. On the following morning he was worse, the breathing was more and more hurried and shallower. Coarse bronchial râles abounded over the chest; the face was dusky; the pulse thready, and the respirations 52 per minute. He expired at 10 A.M. The following is the report of the post-mortem examination of the body:—

"Body stout, muscular. No emaciation. Fingers contracted, rigid. Scalp congested. Veins of pia mater very turgid. Arteries also congested, but not to same extent. Cerebral substance firm, normal. No abnormal quantity of fluid in the ventricles. *Heart* large, slightly fatty. Two ounces of fluid in the pericardium. A large firm fibrinous clot, half filling the cavity of the right auricle. A fibrinous clot in the pulmonary arteries. Left lung in a state of pneumonic congestion, of bright scarlet colour. Lower lobes of right lung hepatized and sinking in water. Lobes glued together by recent pleuritic effusion. *Abdomen*, Peyers' glands in lower two or three feet of ileum enlarged, elevated and raised in ovoid or pyramidal patches. No ulceration."

The morbid appearances in this case would appear to indicate that it was one of enteric fever complicated with pneumonia. The case is interesting from the rapidly fatal course it ran; and the existence of fibrinous clots in the cavity of the heart, in connection with the inflamed state of the lungs, is in keeping with the observations of Dr. Murchison,* who says that there is a close relation between the condition of the blood and the symptoms during life, in this form of fever, and that when death is due to perforation or pneumonia, the heart often contains fibrinous coagula.

Two

* A treatise on the continued fevers of Great Britain, 1862, p. 557.

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Two deaths from fever, said to have been typhus, occurred in the persons of a seaman and a marine of the Donegal, at Liverpool. The only information given with respect to these cases is to the effect that the marine "had been on shore, drinking in some of the low haunts about Liverpool, and had become infected with typhoid fever." No reference whatever is made as to the circumstances under which the seaman was attacked, or the nature of the symptoms under which he laboured.

Fatal cases of fever occurred in the Implacable and Impregnable, and Royal Adelaide, at Plymouth, and in the Wellesley, at Chatham. In the Implacable the fever was complicated with disease of the heart; in the Impregnable, death resulted from serous effusion on the brain; and in the Royal Adelaide, the fatal event was accelerated, if not occasioned, by broncho-pneumonia. The fatal case in the Wellesley occurred in the person of a boy who had been seized with febrile symptoms during the Christmas week of 1864, when on leave, and was too ill to return to the ship. When visited at his residence, the symptoms are said to have been those of enteric fever, complicated with dysenteric diarrhœa. He was, in consequence, removed to Melville hospital, where he died on the 2nd of March, labouring under all the symptoms of tabes mesenterica.

There was nothing particularly calling for comment in the cases of primary fever occurring in the other vessels of the squadron employed on the Home station. A large majority of them were of an ephemeral character, and mainly attributable to dietetic errors. The most severe and fatal form of fever was, undoubtedly, of the enteric type, and in almost every instance its origin could be traced to infection contracted on shore.

Small-pox.—This disease was happily of rare occurrence in the squadron, the ratio of cases per 1,000 of mean force being one of the lowest that has occurred in a period of ten years. Only eighteen cases occurred altogether, and none of them proved fatal. In 1864 there were 199 cases of small-pox, and nine deaths.

There were three cases of small-pox in the Boscawen at Southampton, all of a modified character, and occurring in the persons of boys who bore good vaccination marks. The origin of the disease in the first case was very apparent, the boy

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boy while on leave having spent his holidays at a house in Southampton, where several people were suffering from small-pox. In the other two cases the origin of the disease was not so evident; the boys belonged to different messes, and their duties did not specially bring them into contact with each other. All the cases, however, occurred about the same time, so that it is very probable that the infection was propagated from one to the other.

In the Cambridge at Devonport, there were three cases of small-pox, apparently of a trivial nature, as little notice is taken of them. In one the vaccination mark was either altogether wanting, or so imperfect as not to be appreciable. This man contracted the disease on shore where it was prevalent in the locality in which he had been residing. Nothing is said as to vaccination marks being present or not in the other cases.

Three cases of small-pox occurred in the Donegal at Liverpool. They were all of a mild character, but no mention is made as to whether the men had been previously vaccinated or not.

Two cases occurred in the Hector, and two in the St. Vincent at Portsmouth. In all, the disease was modified, and all showed good vaccination marks. In one of the cases in the Hector, the disease was associated with secondary syphilis.

Single cases of small-pox occurred in the Canopus, Indus, and Royal Adelaide at Plymouth; in the Fisgard at Woolwich, and in the Irresistible at Southampton. In the Canopus and Royal Adelaide, the men had been previously vaccinated, but no information on this point is given in reference to the other vessels.

Ten cases of varicella occurred in the Britannia at Dartmouth during the Christmas quarter. With reference to these cases, the surgeon* in charge of the naval cadets' sick quarters at Dartmouth says:—

"At the close of the month of November and beginning of December, ten cases of varicella were placed under treatment. Of these, the first five cases admitted, passed through the disease in a very mild form; of the others one only was mild, the four others being in a severe form. In the last two cases, the disease ran its course,

* Dr. J. T. U. Bremner.

course, the vesicles crusting and dropping off; when, nine days after admission, after slight constitutional disturbance, a series of well-formed pustules appeared,—well developed, modified variola. These pustules came out thickly all over the trunk and extremities, the face in each case being very slightly attacked. The vaccine mark was very distinct, and immediately over the mark on one arm a pustule formed. Both are now convalescent, but remain in sick quarters as a precaution against the disease being communicated. Not a single case of variola is known of in the neighbourhood."

There was a case of varicella in the Wellesley at Chatham. The patient was only five days on the sick-list, and this is the only information that is given in connection with it.

Measles.—Forty cases of this form of eruptive fever occurred in the Home Force during the year, but there was nothing of a noteworthy character in connection with them. They chiefly occurred in boys, and with few exceptions ran a mild uncomplicated course. Nine of the cases occurred in the Achilles; seven in the Canopus; five in the Excellent; five in the Indus; four in the Cambridge; two in the Victoria and Albert; two in the Victory; and single cases in the Blenheim, Britannia, Impregnable, Royal Adelaide, Liverpool, and Constance.

Scarlatina.—Thirty-six cases of scarlatina were entered on the sick-list during the year; twenty-five of which occurred in the naval cadets' training ship Britannia at Dartmouth. The surgeon of the Britannia* makes the following observations on this epidemic:—

"During the time embraced by this journal, the Britannia has been visited by an epidemic of scarlet fever, which disease appeared soon after the cadets returned from their holidays after Christmas. The attacks generally were very mild indeed; the premonitory fever was in most cases very slight, and the throat symptoms by no means severe. Immediately on any patient becoming affected, he was sent out of the ship, and probably it was owing to that circumstance that the disease did not spread much more than it did. The whole number of cases was twenty-five; of which two occurred amongst the ship's company, one being a servant to the cadets, and in constant communication with them, and the other a marine, with regard to whom it was difficult to trace absolute contagion. Several of the cases amongst the cadets were also of this nature. It could not be said that they were in any intimate relation to those who had the disease in the first place, but amongst a number of boys more or less constantly

* Surgeon John Cockin.

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stantly together, it would be very difficult to decide how contagion might spread. Most of the cases, however, could be traced to nearness or relationship to those primarily affected. Thus many in the same class with those in whom the disease first appeared, were subsequently attacked, as well as those who sat at the same mess table, or slept near the same part of the cockpit or lower deck. Still there were many instances of what might be selection even amongst these, for numbers of others who were placed in the same relative relationship altogether escaped being attacked by the disease, although there did not appear any reason why such should be the case. The first case occurred in the person of a cadet who had been staying during the greater part of his holidays, and particularly the latter part, in the neighbourhood of Portsmouth, at which place the disease was known to exist during his stay there, and he most probably received the infection while there, a short time before he returned to the ship. The disease showed itself about a week after his return on board. The case was not severe, and he was sent out of the ship as soon as possible. The second centre of contagion, as far as I could ascertain, was a cadet who had passed the greater part of his holidays at Dartmouth, where also the disease was known to be prevalent amongst the townspeople. No connection between these two cadets could by any possibility be proved, and it is therefore reasonable to suppose that they contracted the disease independently of each other, from two separate sources of contagion . . . . From these two centres, the disease appeared to spread to the other cadets, who were attacked."

The medical officer of the cadets' sick quarters, to whose charge these cases were at once transferred, says with reference to them:—

"The first case of scarlatina was admitted on the 30th of January, the eruption being thickly out all over the body, accompanied with sore throat. Upon the whole, the attack may be considered to have been mild in its character, terminating favourably in a few days without any bad symptom. This boy rejoined from a neighbourhood where scarlatina existed. On the day when he returned he felt unwell, but did not make his complaint known until the evening of the 29th, at which period, not unlikely, the rash was out, although not then detected. Next morning, however, it was very manifest, when he was sent to sick quarters. In all likelihood he had contracted the disease in the locality where he had passed the vacation. From this period, viz., from the 30th of January to the 10th of February, no other case was added, but on the morning of that day one case was sent to hospital; another on the 11th; two on the 12th; one on the 13th; and one on the 14th. From that period until the 20th there were no additions, but on that day two more were sent, and on the following day, five; on the next day, four; on the next, three; and finally on the 24th, two; and so terminated the admission of scarlatina for the year, making a total of 23 for this period. The majority passed through their stages in a mild form, although in some there was much sore throat, accompanied with superficial ulceration and chronic enlargement of the tonsils, cough, and

and severe earache, leaving temporary deafness. Each and all of these cases terminated favourably without any bad symptoms, excepting in one instance, in which, after the desquamation had passed, the patient was attacked with ulceration of the tonsils, first of one side and then of the other. These ulcers having healed, the cervical glands became enlarged and very painful; then the parotids; and, finally, the submaxillary, which latter were hard, inflamed, and extremely sensitive to the touch. I much dreaded these glands suppurating; but by supporting the general health with wine, tonics, iodide of potassium, iron and quinine, and the local application of tincture of iodine when admissible, and finally change of locality, he rejoined the ship in perfect health, and so continues; all symptoms of glandular enlargement having passed." Home Station.

Of the other cases of scarlatina that occurred in the force, three were in the Victory, two in the Irresistible, two in the Edgar, and one in the Excellent. In all these cases the disease appears to have been contracted on shore at Portsmouth, where it abounded. One case occurred in the Royal George at Kingstown, and one in the Asia. In the latter instance the patient, a warrant officer, had been residing in a house where the disease prevailed. In the Trincomalee, at West Hartlepool, there was a case of scarlatina sine eruptione. The disease was epidemic on shore, and had caused considerable mortality, and the person in whom the attack occurred in this vessel had two children suffering from it in a severe form. Although there was no eruption in this case, the appearance of the tongue and throat and the general febrile symptoms were sufficiently characteristic.

Diseases of the Brain and Nervous System.—A marine of the Britannia died of abscess of the cerebellum in sick quarters at Dartmouth. He had long been subject to a discharge from the left ear, and on the last occasion of his being placed on the sick-list he complained of headache, which he said had existed for more than a week, and had gradually increased in severity. The pain was felt at the vertex, not in front or behind. The tongue was furred, transversely fissured, indented at the edges, and tremulous. The pulse was natural and the skin cool. He had no appetite, and felt uneasiness at the epigastrium after eating. The bowels were torpid. These symptoms increased in severity, and on the fourth day after his being placed on the sick-list the following notes were made by the staff-surgeon of the ship:—

"Has passed a restless night, moaning, and complaining much of the head, especially frontal pain. No nausea; is intolerant of noise, and

* Staff Surgeon S. S. D. Wells.

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and answers questions unwillingly, requesting to be let alone. The pupils are more dilated, but without intolerance of light or the vision being affected. Pulse 48,. rather improved in volume. Tongue furred, but moister and without dryness. Urine copious, with slight phosphatic deposit."

In this condition he was discharged to sick-quarters, where, after a few days, he became delirious, and all his symptoms apparently were much aggravated. But little information, however, is furnished with reference to his case after his removal from the Britannia. He died one month after being sent on shore, and the only report in connection with the post-mortem examination of the body is, that an abscess was found involving the whole of the left lobe of the cerebellum, and containing between six and seven ounces of pus.

A fatal case of encephalitis occurred, under somewhat peculiar circumstances, in the person of a seaman of the Excellent. He had received a blow from a handspike on the outer aspect of the right knee-joint, which was followed by considerable pain and swelling. He was discharged two days afterwards to Haslar Hospital, and from the returns from that establishment the following abridged history of his case is taken :—

"Admitted for synovitis of right knee, of chronic type, with effusion into the joint, the result of a blow from a handspike at gun drill, on the 16th of January; was of a rather pale, unhealthy appearance. Tincture of iodine and blisters failing to excite absorption, a small quantity of serum was removed by a grooved needle on the 14th of February. On the 21st of February an ounce of turbid serum was drawn off by a trocar and canula. Suppuration ensued early in March, and on the 3rd a small incision was made at the upper and outer aspect of the joint, giving exit to a large quantity of healthy pus. Subsequently a counter opening was established at the inferior and outer aspect of the knee. Moderate constitutional disturbance accompanied the suppurative process, but soon subsided. The knee continued to improve steadily, as well as his general condition until the 30th of March, when severe continuous frontal headache set in. The appetite failed rapidly, and he complained of some epigastric tenderness. The senses remained perfect, and the mind clear until the 2nd of April, when he became a little deaf and soon delirious. The delirium continued almost without intermission. He became very restless, tossing himself about uneasily and moaning piteously. The right pupil soon became a little dilated, and slight twitching of the mouth was observed. He made no attempt to speak, appeared not to recognize even his relations, and had great difficulty in swallowing. On the 3rd of April he had improved much, and could answer clearly. The headache was diminished. He dozed frequently, but the pupil remained dilated, and he voided urine

urine involuntarily. On the 4th of April he was quiet, composed; and comfortable; answered readily and made no complaint of pain, and took his food fairly. During the night, however, delirium returned with restlessness and pain. At 8 a.m. of the 5th coma set in, and gradually deepened until 12. 20 p.m., when he expired. Home Station

"*Autopsy.*—Dura mater congested throughout, with evident marks of inflammation in the posterior fossæ. Sub-arachnoid spaces filled with turbid serum. Pia mater congested; lymph exuded on cerebellum and posterior lobes of cerebrum; over pons varolii and base of brain to the commissure, and throughout both Sylvian fissures. The ventricles contained three fluid drachms of serum. The right optic thalamus was softened and breaking down. The upper surface of the cerebellum was softened. The brain was congested throughout. The other viscera were healthy."

A rapid and fatal case of congestion of the brain occurred in the person of a boy of the Implacable, who previous to the fatal seizure had never complained of any head affection, and on the day previous to the attack was in his ordinary health, and amusing himself with the other boys as usual. On the morning of the 24th of November he complained of feeling cold, and of shivering, and shortly afterwards he presented himself with severe headache. The pulse was quick and the tongue white. His bowels were freely acted upon, and he appeared to be somewhat relieved when, at 11. 30 p.m., he was found to be much worse, and seemed in great pain. He was lying on his back moaning, and although he could not be got to speak he appeared to refer the pain to his head. The pupils were widely dilated and insensible to light; the trunk was of natural heat; the extremities cold. There was no stertorous breathing, but the respiration was slightly quickened. The pulse was very small and scarcely perceptible; the neck and head latterly, warm and perspiring. He continued in this condition until 1. 30 a.m. of the 25th, when he suddenly became much worse; gurgling râles were heard over the chest and throat, and at a quarter to two he died. Hot water was applied to the feet, sinapisms to the calves of the legs and spine, and cold lotions to the head; ammonia was also administered at intervals. He was quite able to swallow to within ten minutes of his death. There was no paralysis. On post-mortem examination of the body, it was found to be above the average size and well nourished. There was general and very great congestion of all the vessels of the brain, and adhesion of the dura mater to the arachnoid, for the space of about an inch on either side of the longitudinal fissure. This adhesion, however, must have been of some standing. The points of blood on making

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a section of the brain were very numerous. The heart was natural in every respect, but there was a very large yellow clot in the right auricle of about the size of that chamber, and a smaller clot in the right ventricle.

A seaman of the Prince Consort, who had been subject to a discharge from the left ear, was sent to Plymouth Hospital on the 29th of March, complaining of deafness and severe pain on the left side of the head, apparently of a neuralgic character. The discharge from the ear was profuse. Twelve days after his admission he had an attack of hæmorrhage from the left ear, which continued more or less to the time of his death, all efforts to arrest it proving unavailing. Symptoms of coma supervened on the 3rd of June, after which he sank rapidly, and died on the 6th. On post-mortem examination of the body, the whole of the petrous portion of the temporal bone was found in a state of caries, and there was some very offensive purulent matter between the bone and its dura mater. The brain and its membranes also showed signs of general inflammation, and there was a small disorganised clot in the under part of the left anterior lobe.

There were forty-eight cases of delirium tremens under treatment on the Home Station during the year, which is precisely the same number as obtained in 1864. Of these, two occurred in commissioned officers; nine in petty officers; one in a leading seamen; eleven in able seamen; one in an ordinary seamen; seven in stokers; one in a bandsman; one in a mess servant; ten in marines; and the ratings in five cases are not given.

Diseases of the Organs of Respiration.—There is a slight increase in the ratio of cases coming under this head, as compared with the preceding year, and the ratios of invaliding and of mortality are also fractionally increased. There were 400 cases of inflammatory disease, thirteen of which were invalided, and twenty-four had a fatal termination; and there were 174 of pulmonary consumption, of which eighty-nine were invalided, and forty-one terminated fatally. Three persons were invalided for asthma.

Diseases of the Heart and Bloodvessels.—There is a reduction in the ratio of cases coming under this head, as compared with the previous year, and the reduction extends to the ratios of invaliding and of death.

There

There were two deaths from aneurism. One of these occurred in the person of a stoker, who was entered on the sick-list on the 6th of November, complaining of pain in the umbilical region and loins, extending to the testicles and down the thighs. He stated that he had been subject to pain in these regions for more than a month, and he attributed his condition to a strain in lifting a weight in the stokehold. On examination a large tumour was felt at the umbilicus, communicating a forcible pulsation to the hand, and on auscultation a distinct bruit de soufflet was heard. The man's attention was first drawn to the pulsation, and subsequently to the tumour. In this condition he was sent to Haslar Hospital, where he died suddenly two days after his admission. On examining the body after death the abdominal cavity was found filled with blood. The aneurismal sac was in front of the aorta, about two inches above its bifurcation into the iliacs. Its size was about that of a turkey's egg. The rupture was in front and to the right side of the sac, and excepting at that point the vessel was perfectly healthy. From the nature of the symptoms and the history of the case, it is supposed that the disease must have come on suddenly.

A petty officer of the Trafalgar, whilst running along the main deck, was observed to stagger and fall down. When seen immediately afterwards he was found in a state of perfect insensibility, breathing heavily, with blanched face and lips, and the pulse quite imperceptible. Sinapisms were applied over the region of the heart, and to the calves of the legs, after which he partially rallied, and several times put his hands over his chest as if suffering pain, but he never spoke nor became sensible; soon after he again became faint, and expired within an hour of being first seen. During the time he served in the ship he had always been very healthy, his only complaint being a slight cough occasionally. The following is the report of the autopsy by the surgeon* of the ship:—

"On removing the sternum, the pericardium was observed to be much distended, and on being opened was found filled with coagulated blood. The heart was quite healthy and the valves competent; but on the semilunar valves of the aorta there was a fibrinous deposit, and the ascending portion of the aorta was much dilated, and in a very diseased state, the internal coats having given way in

* Dr. Andrew Graham.

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in two places. No opening could be found through the external coat, but death was evidently caused by the bursting of the aneurism. The other organs were healthy."

Diseases of the Alimentary Canal.—There is a slight increase in the ratio of cases coming under this head as compared with the previous year, which is almost altogether attributable to the greater prevalence of cases of diarrhœa. There is a reduction in the ratio of invaliding, and an increase in the death-rate.

A fatal case of obstruction of the bowels occurred on the person of an officer of the Formidable, of a very gouty habit of body, who was seized with violent pain at the lower part of the abdomen, which he attributed to having partaken rather freely of salmon and cucumber on the previous day. There was considerable tenderness over the abdomen below the umbilicus, and both sides of the abdomen, in the region of the large intestine, were somewhat tense and slightly tympanitic. Some relief was obtained from the remedies employed in combating these symptoms, and the bowels were acted upon by purgatives and enemata. Five days after his admission to the sick-list he complained of a burning sensation in the gullet and stomach, and after giving a few coughs vomiting ensued, and about a wine-glassful of dark grumous fluid, like coffee-grounds, was ejected from the stomach. He then sat up in bed, and putting his forefinger down his throat vomited about a pint of the same kind of semi-fluid black matter. It was acid, had no fœtid odour, and answered the description given of black vomit in the last stage of yellow fever. Relief was for a short time obtained after this, but very severe hiccup ensued, which he described as a "wave," commencing in the region of the caput cæcum, and proceeding upwards to the left side of the chest. On the following day the hiccup began to be accompanied with eructation, and a large quantity of fluid was ejected in that way. It was of the consistence of strong beef tea, but of a paler colour, and its smell resembled that of newly passed urine. He lay on his side with a spittoon close to his mouth, which he filled with the fluid in the course of a few minutes. The intervals of cessation were very short. There was no act of vomiting. All the fluid was ejected by eructation. This condition was much relieved by sucking large pieces of ice; but he was reduced to the lowest state of debility, being almost pulseless, and only able to speak in a whisper. He rallied, however, very much from this condition,

but

but the hiccup still continued troublesome when he lay in the horizontal position, although it was much diminished when he sat semi-erect. Scybalæ passed occasionally from the bowels, and some were tinged with blood. The passage of these sanguineo-feculent stools was followed by an ill-developed attack of ague. After this much tenderness was experienced in the region of the caput cæcum, and also a deep-seated burning pain at the sigmoid flexure of the colon. The feeling of rawness in the gullet was still experienced on swallowing. In this condition he was removed to Melville Hospital, where an abscess formed over the caput cæcum, which on being opened was found to communicate with the gut, and considerable quantities of fæces flowed for some time through the wound. This, however, healed up perfectly, and the patient's health and strength were gradually returning when he was suddenly attacked with intermittent fever, which was checked by the administration of quinine; but the shock to the system occasioned by the attack was so great in his debilitated condition that he sank exhausted. The above history of this interesting case is abridged from the detailed report of the staff surgeon* of the ship, who says:—

"The origin of the complaint was no doubt an accumulation of hardened fæces in the caput cæcum; but his system had been in a low, debilitated state for some time from the existence of the gouty diathesis."

A stoker of the Gladiator, who had been admitted to Plymouth Hospital for syphilis, died of obstruction of the bowels. He had been five days constipated, and suffered from intense abdominal pain and distension. No treatment had any effect in affording relief, and the long tube only passed fifteen inches up the rectum. After death a white streak was found round the gut at the sigmoid flexure of the colon, where it had apparently twisted on itself. Above this the intestines were congested.

Eight cases of cholera appear in the returns. These were for the most part severe forms of diarrhœa of a choleraic character, dependent in several instances on dietetic errors. One case proved fatal in the person of a seaman of the Hastings, who was seized with bilious purging and vomiting, followed by extreme collapse, under which he sank. The attack was ascribed to the abuse of alcoholic drinks, and it is to

* Staff Surgeon Robert Pottinger.

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to be regretted that a post-mortem examination of the body was not allowed to be made, as his previous history, gathered from his messmates, led to the inference that he laboured under internal abdominal disease of long standing. The case is said to have been very obscure, the usual cramps and jactitation of cholera being wanting, although he was pulseless from the beginning, and had the cold clammy sweats and breath of that disease. One of the most severe cases of cholera of those that recovered occurred in the person of a seaman, who was brought on board the Victory by the police, in a state of collapse. It appears that, while drunk on the previous evening, he had lain down to sleep in the privy of a brothel in one of the lowest haunts of vice in Portsmouth. Two or three hours afterwards he was seized with vomiting and purging, accompanied with severe griping. When brought on board the Victory he was collapsed; the tongue was cold, the features sunken; the pulse was below sixty; he was severely cramped, and he passed rice-water stools. Under the influence of heat, sinapisms, stimulation, and opiates, he speedily rallied and recovered.

Diseases of the Genito-Urinary Organs.—There was a very trifling increase in the ratio of all cases coming under this head as compared with the previous year, and the increase in the ratio of cases of syphilis is only fractional. The vessels that appear to have suffered most from venereal diseases were the Achilles, Canopus, Duke of Wellington, Edgar, Excellent, and Prince Consort.

In the Achilles there were seventy-six cases of primary syphilis; forty-one of secondary syphilis; and twenty-three of gonorrhœa. With respect to them the surgeon remarks:—

"These diseases appear as a certain sequence of leave, and the loss of service from this cause is very great, not only at the time, but frequently by leaving the constitution in a cachectic state, and thus rendering the men more susceptible to the causes of other diseases. Our men contracted the disease in Plymouth and Portsmouth, and a few cases occurred after leave at Cork; but none appeared after leave in the French ports, or in Lisbon, Portland, or Berehaven. In the treatment of the secondary forms of the disease I have tried the plan of giving tonics, such as iron and quinine, quassia and hydrochloric acid, with marked success; and in one case of periostitis the biniodide of mercury, in conjunction with the calomel vapour-bath. A case of iritis, and some of tubercular eruption, which cured by, and lichen, were all successfully treated by fumigation, which certainly appears to be safe and efficacious."

In

In the Canopus there were ninety-one cases of primary syphilis, seventeen of secondary syphilis, and twelve of gonorrhœa; and in the Duke of Wellington there were seventy-eight cases of primary syphilis, twenty-seven of secondary syphilis, and thirty-two of gonorrhœa. The surgeon* of the latter vessel says:—

"A record was kept of the places where the men who were received in this depôt-ship contracted syphilis; and although London, Brighton, Bath, Salisbury, Shields, Dundee, Edinburgh, Dublin, and Cork appear on the list, yet more than seven-eighths were attributed to Portsmouth, Plymouth, and Sheerness. Some melancholy examples of secondary syphilis appeared during the last ten months, and were transferred to Haslar Hospital. Stricture in a majority of the cases followed gonorrhœa, and orchitis frequently followed the suppression of this discharge."

There were ninety-three cases of primary syphilis, fifty-six of secondary syphilis, and twelve cases of gonorrhœa, in the Edgar during the year. The surgeon† of the ship makes the following remarks on the cases that occurred during the first six months of this period:—

"In my remarks for the year 1864 I entered at some length into the history, nature, and treatment of syphilis as it had occurred on board the ship from July 1862 to December 1864. Additional facts seem to confirm the truth of the opinions I there expressed as to the different kinds of venereal sores, the possibility of soft and non-indurated sores being contracted at the same time, and the rarity, if it ever occur, of a true indurated sore on a person previously affected with constitutional syphilis. A good example of soft and indurated chancres occurring simultaneously in the same person has been under treatment; and two cases were instances of soft sores occurring in persons evidently affected with constitutional syphilis—which, although only negative evidence in proof of the assertion that indurated sores do not occur under such circumstances, afford me the opportunity of stating positively that I have never seen a case in support of the contrary opinion. I have seen, and frequently do see, soft chancres on the hardened cicatrix of an old chancre, and these are the so-called cases of secondary indurated chancre. I stated also in my remarks, that though suppurating bubo rarely occurs in true syphilis, I did not think it could confer any immunity from secondary symptoms, as was the old opinion. A case which was under treatment lately might be considered as confirmatory of this view, but the man had suffered previously from true syphilis, and the suppurating bubo seems to have only been superadded to the original disease, and depended on a recent soft chancre. There were two cases illustrative of secondary symptoms following a sore on

* Dr. Hart Gimlett. † Surgeon W. H. Sloggett.

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on the sheath of the penis, where induration seldom or never occurs excepting in the parchment form. In the past six months of the year, sixty-seven men have been affected with primary syphilis, and of these certainly sixty contracted the disease at Portsmouth. As out of this time six weeks had been spent at sea, it follows that in four months and a half this number of men contracted the disease. Deducting officers, boys, and those of the older, more respectable, and married men, who never exposed themselves (at least 250) there remain 550 men, out of whom sixty became infected in four months and a half, being a proportion of nearly thirty per cent. per annum, rendered unfit for service by this scourge of our seaport towns. The sixty-seven cases admitted were as follows:—

Indurated chancres - - - - -	22
Phagædenic chancres - - - - -	1
Soft chancres - - - - - -	42
Doubtful chancres - - - - -	2
	67"

There were seventy-two cases of primary syphilis, forty-three of secondary syphilis, and thirty-two of gonorrhœa in the Excellent, most of which were contributed by seamen gunners, who, on joining the vessel after the six weeks' leave granted them on return from foreign service, were found to be labouring under one or other of these forms of venereal disease.

The surgeon* of the Prince Consort, in which vessel there were eighty-five cases of primary syphilis, thirty-one of secondary syphilis, and twenty-nine of gonorrhœa, makes the following remarks with reference to them:—

"A most important class of diseases stands next for consideration, one which has ever been numbered among the 'opprobia medici,' and one to which the attention of the lay public has been very much directed; and most deservedly so, for there can be little doubt that this evil leaven has of late been widely disseminated in this country—I allude to diseases of the genito-urinary organs, and especially to venereal diseases.

"Of the whole ship's company 27·7 per cent. have been affected by some form of these complaints; they represent 4·9 of the total cases of sickness on board, and 5·1 of the total days' sickness. The average duration of treatment on board was 9·7 days. Of the 161 cases sent to hospital, ninety-five were due to this cause. Compared with the returns of the preceding year, however, there is an absolute decrease, and a larger relative one, the increased mean strength of the ship's company being considered, viz., 594 to 520. I can only account

* Dr. Stephen Bowden.

account for this by supposing they have been for shorter periods in infected localities, which indeed has been the case; the other circumstances—as leave, money, &c.—have remained the same. The 'Contagious Diseases Act' was, I believe, only very partially in operation in Devonport, when the ship was stationed there during the two spring months of 1865. Primary syphilis and venereal sores have presented themselves in all their various forms and phases, from the simple excoriation, perhaps merely a mechanical lesion, to the indurated sore and the sloughing ulcer; and the constitutional disease from a blotch on the skin and an ulcer on the throat, to exfoliation and caries of bone, and rupial eruption and ulcers on the integument. Would that from this abundant but incongruous material I could say that I had traced anything like cause and effect, any regular sequence of phenomena, any operation of remedies truly so called, or could have discerned any marks by which the treatment might have been guided. In these respects, however, I must profess myself totally at fault. Many preconceived notions that I may have entertained have been upset by further experience and opposing facts, and I now proceed to the treatment of venereal diseases with less confidence and with a stronger sense of empirical practice than I did many years ago. On some few points my opinions incline in the following direction—that constitutional syphilis may follow any form of true venereal sore, that is, a sore the result of venereal inoculation; that the occurrence of bubo is no protection against constitutional syphilis, and no proof that the poison is arrested by the quasi-local accumulation, or by this instrumentality discharged 'en masse;' that the character of the sore depends much upon various accidental circumstances, such as locality, tissue, health of patient, peculiarity of constitution, and therapeutical agents employed, and that the toxæmic properties of the poison are one and the same; that the constitutional symptoms follow no regular order, and bear no relation to the primary sore, and that they are modified by the state of health, temperament, &c. of the patient, and other accidental agencies: that mercury possesses no certain specific prophylactic properties against the development of secondary syphilis; that its so-called alterative powers have no antidotal action, and that when it acts advantageously on healing of primary sores, as it often seems to do, it does so by improving the general health of the patient, perhaps by eliminating disordered secretions; the same may be said of other remedial agents.

"Few of the cases of primary syphilis have been restricted to simple sores. Twenty-seven have been complicated with bubo, several with gonorrhœa, and not a few with both;—all circumstances productive of prolonged sickness. Several of the sores have been self-inoculating or reproducing, the primary or original sore in these cases being always of the suppurating variety. No such phenomenon was observed to follow the indurated sore. Gonorrhœal cases have, as usual, proved tedious, and as far as loss of service on board is concerned, have been longer under treatment than their congeners, primary syphilitic affections, in the proportion of 12·2 days to 9. They, too, have not been without their constitutional sequelæ in the form

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form of rheumatic affections, and their local sequelæ, orchitis, stricture, &c. One-third of these cases was submitted for hospital treatment, and of the strictures, two out of three were also sent to hospital. One of these occurred suddenly while the patient was on leave, supervening on a debauch, and assumed the perilous form of obstinate retention of urine, which seems only to have been relieved after considerable difficulty. He was and is the subject of permanent stricture."

The surgeon* of the Gladiator makes the following remarks on the employment of mercury in the treatment of syphilis:

"As usual, I have to draw attention to the large loss of service resulting from syphilis, in the primary as well as in the secondary forms, and as many of these cases were sent to hospital immediately on the appearance of the disease, a large addition must be made to the day's sickness which appears in my report. Some of the secondary affections have been most obstinate, recurring again and again. I have not been in the habit of employing mercury in the treatment of the primary sore, looking upon it rather as a local affection for the first few days, and it is generally within that time the disease is seen on board ship. Whether its use may or may not be beneficial in securing immunity from the secondary affection, is a difficult matter to say with certainty. At one time I was inclined to the belief that it was of little value, but looking at the result of local treatment, it is not encouraging. Out of thirteen cases of primary syphilis, to have twelve secondary ones, is a large proportion, and I now intend making a selection; and in all cases of indurated chancre, I purpose employing mercury in small doses, and shall watch the result."

Wounds and Injuries.—Two men sustained fatal injury to the spine, one by falling from aloft, the other by falling into a dock. One man sustained fatal internal injuries and fracture of numerous bones by the surging of a hawser; and injuries of a similar character proved fatal to a man who fell into the hold of a ship, and to another who fell from the swinging boom into a boat alongside. There were two deaths from concussion of the brain, one being occasioned by a fall into the hold of a vessel, the other by falling from a pier on to a stage. Two men sustained fatal fracture of the skull by falling from aloft; and one man was suffocated by the impaction of food on the larynx.

There were sixteen deaths from drowning, seven of which were occasioned by accidentally falling overboard; two men were

* Surgeon W. J. Eames.

were drowned while bathing; one by falling into a dock; one while attempting to swim on shore; three by the capsizing of a boat; and two are said to have been suicidal.

The cause of death in three cases is not given.

The total number of deaths was 151, being in the ratio of 7·1 per 1,000 of mean force. Of these, 122 were caused by disease, being precisely the same number as occurred in the preceding year, and twenty-nine from wounds and injuries, and drowning. The death-rate from disease alone was only 5·8 per 1,000. In the total death-rate there is a decrease, as compared with the preceding year, of ·7 per 1,000, and in the ratio of mortality from disease of ·5.

Invalided.—Four persons were invalided for ague; sixty-three for diseases of the brain and nervous system, of whom twenty-seven suffered from epilepsy, and sixteen from paralysis; 105 for diseases of the respiratory organs, of whom eighty-nine were phthisical; seventy-three for diseases of the organs of circulation; five for diseases of the alimentary canal; two for disease of the liver; forty-two for diseases of the genito-urinary organs, almost all the result of venereal disease; sixty-one for rheumatism; twelve for diseases of the bones and joints; thirty-one for diseases of the special senses; forty-three for diseases of the skin and cellular tissue; twenty for dyspepsia and debility; five for dropsy; forty-one for wounds and injuries of various kinds; and thirty-five for hernia; making a total of 543, which is in the ratio of 25·8 per 1,000 of mean force, being a decrease, as compared with the preceding year, equal to 6·5 per 1,000.

TABLE, No. 1.

SHOWING the Number of CASES of all DISEASES and INJURIES, and the Number INVALIDED and DEAD, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Continued and Remittent Fever	239	11·3	-	-	13	·6
Intermittent Fever	130	6·1	4	·1	—	—
Small Pox	18	·8	—	—	—	—
Measles	40	1·9	—	—	—	—
Scarlatina	36	1·7	—	—	—	—
Varicella	11	·5	—	—	—	—
Vaccinia	5	·2	—	—	—	—
Disease of the Brain	6	·2	4	·1	4	·1
Apoplexy	7	·3	1	-	4	·1
Epilepsy	83	3·9	27	1·2	1	—
Paralysis	22	1·	16	·7	2	—
Insanity	15	·7	6	·2	—	—
Delirium Tremens	48	2·2	—	—	—	—
Neuralgia	52	2·4	1	—	—	—
Vertigo	25	1·1	9	·4	—	—
Inflammation of the Lungs and Pleura	400	19·	13	·6	24	1·1
Phthisis and Hæmoptysis	174	8·2	89	4·2	41	1·9
Influenza and Catarrh	2,401	114·4	—	—	—	—
Cynanche	1,016	48·4	—	—	—	—
Asthma	15	·7	3	·1	—	—
Disease of the Heart, Functional and Organic	150	7·1	57	2·7	10	·4
Hæmorrhoids	59	2·8	1	—	—	—
Varix	28	1·3	11	·5	—	—
Aneurism	6	·2	4	·1	2	—
Disease of the Stomach and Bowels	30	1·4	1	-	8	·3
Dysentery	16	·7	1	—	—	—
Diarrhœa	712	33·9	3	·1	—	—
Cholera	8	·3	-	-	1	—
Constipation and Colic	219	10·4	—	—	—	—
Colica Pictonum	2	—	—	—	—	—
Disease of the Liver	42	2·	2	-	1	—
Jaundice	33	1·5	-	-	1	—

TABLE, No. 1.—Showing the Number of Cases of all Diseases, &c.—*continued.*

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Diseases of the Bladder and Kidneys	47	2·2	3	·1	1	—
Syphilis	2,039	97·1	28	1·3	—	—
Gonorrhœa	636	30·3	—	—	—	—
Orchitis	421	20·	2	—	—	—
Stricture	60	2·8	4	·1	1	—
Incontinence of Urine, &c.	3	·1	5	·2	—	—
Rheumatism	1,398	66·6	61	2·9	1	—
Gout	54	2·5	—	—	—	—
Disease of the Bones and Joints	63	3·	12	·5	—	—
Inflammation of the Eyes	270	12·8	5	·2	—	—
Amaurosis and Cataract	16	·7	15	·7	—	—
Otitis and Deafness	82	3·9	11	·5	—	—
Erysipelas	37	1·7	1	- -	3	·1
Scrofula	28	1·3	13	·6	—	—
Bubo (*Symp.*)	273	13·	1	—	—	—
Phlegmon and Abscess	3,253	154·	6	·2	2	—
Ulcer	1,285	61·2	21	1·	—	—
Psora	438	20·8	—	—	—	—
Eruptions, &c.	371	17·6	1	—	—	—
Dyspepsia and Debility	757	36·	20	·9	1	—
Scurvy	2	—	—	—	—	—
Dropsy	28	1·3	5	·2	1	—
Worms	27	1·2	—	—	—	—
Headache	58	2·2	—	—	—	—
Purpura	2	—	—	—	—	—
Wounds and Injuries	3,620	172·5	41	1·9	10	·4
Burns and Scalds	148	7·	—	—	—	—
Hernia	58	2·7	35	1·6	—	—
Drowned	- -	- -	- -	- -	16	·7
Submersion	2	—	—	—	—	—
Alcoholic Poisoning	2	—	—	—	—	—
Poisoning by Opium	1	—	—	—	—	—
Not stated	- -	- -	-	- -	3	·1
TOTAL	21,507	1025·1	543	25·8	151	7·1

TABLE, No. 2.

SHOWING the Number of DAYS' SICKNESS from each DISEASE, and from INJURIES, the Average Number of Men Sick Daily, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Continued and Remittent Fever	1,471	2,464	3,935	10·7	·5
Intermittent Fever	833	596	1,429	3·9	·1
Small Pox	30	745	775	2·1	·1
Measles	143	482	625	1·7	—
Scarlatina	102	994	1,096	3·	·1
Vaccinia	18	- -	18	—	—
Varicella	11	85	96	·2	—
Disease of the Brain	63	480	543	1·4	—
Apoplexy	70	89	159	·4	—
Epilepsy	548	613	1,161	3·1	·1
Paralysis	230	2,131	2,361	6·4	·3
Insanity	68	704	772	2·1	·1
Delirium Tremens	269	609	878	2·4	·1
Neuralgia	275	163	438	1·2	—
Vertigo	156	350	506	1·3	—
Inflammation of the Lungs and Pleura	4,146	8,541	12,687	34·7	1·6
Phthisis and Hæmoptysis	1,544	8,988	10,532	28·8	1·3
Influenza and Catarrh	15,043	1,267	16,310	44·6	2·1
Cynanche	6,797	1,489	8,286	22·7	1·
Asthma	47	153	200	·5	—
Disease of the Heart, Functional and Organic	1,404	3,675	5,079	13·9	·6
Hæmorrhoids	514	260	774	2·1	·1
Varix	271	358	629	1·7	—
Aneurism	63	72	135	·3	—
Disease of the Stomach and Bowels	156	819	975	2·6	·1
Dysentery	118	696	814	2·2	·1
Diarrhœa	3,009	403	3,412	9·3	·4
Cholera	27	21	48	·1	—
Constipation and Colic	925	157	1,082	2·9	·1
Colica Pictonum	24	- -	24	—	—

Table, No. 2.—Showing the Number of Days' Sickness from each Disease, &c.—*cont^d.*

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force
Disease of the Liver	407	912	1,319	3·6	·1
Jaundice	434	192	626	1·7	—
Disease of the Bladder and Kidneys	211	590	801	2·1	·1
Syphilis	25,727	57,005	82,732	226·6	10·8
Gonorrhœa	7,746	3,116	10,862	29·7	1·4
Orchitis	5,287	1,996	7,283	19·9	·9
Stricture	526	1,754	2,280	6·2	·2
Incontinence of Urine, &c.	43	269	312	·8	—
Rheumatism	12,047	14,876	26,923	73·7	3·5
Gout	539	276	815	2·2	·1
Disease of the Bones and Joints	775	1,435	2,210	6·	·2
Inflammation of the Eyes	2,501	1,791	4,292	11·7	·5
Amaurosis and Cataract	101	236	337	·9	—
Otitis and Deafness	625	467	1,092	2·9	·1
Erysipelas	418	1,091	1,509	4·1	·1
Scrofula	296	1,026	1,322	3·6	·1
Bubo (*Symp.*)	4,358	3,286	7,644	20·9	·9
Phlegmon and Abscess	26,653	6,123	32,776	89·7	4·2
Ulcer	18,177	8,342	26,519	72·6	3·4
Psora	3,103	-	3,103	8·5	·4
Eruptions, &c.	3,876	2,032	5,908	16·1	·7
Purpura	18	-	18	—	—
Dyspepsia and Debility	3,924	3,994	7,918	21·6	1·
Scurvy	29	25	54	·1	—
Dropsy	209	768	977	2·6	·1
Worms	99	100	199	·5	—
Headache, &c.	560	382	942	2·5	·1
Wounds and Injuries	33,316	5,999	39,315	107·7	5·1
Burns and Scalds	1,825	290	2,115	5·7	·2
Hernia	338	210	548	1·5	—
Poison	10	-	10	—	—
Submersion	5	-	5	—	—
Alcoholic Poisoning	10	-	10	—	—
TOTAL	192,412	155,987	348,399	954·5	45·4

TABLE, No. 3. - -

SHOWING the Number INVALIDED -

CAUSE OF INVALIDING.	Achilles.	Active.	Arethusa.	Asia.	Black Prince.	Blenheim.	Boscawen.	Britannia.	Cambridge.	Canopus.	Constance.	Cumberland.	Dasher.	Dauntless.	Dee.	Defence.	Donegal.	Duke of Wellington.	Edgar.	Excellent.	Ferret.	Fisgard.	Formidable.
Intermittent Fever. - - -	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	2	-	-	-	-	-
Inflammation of the Brain - -	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	2	-	-	-	-
Insanity - - - - - -	-	-	-	1	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Apoplexy - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Epilepsy - - - - - -	2	-	-	-	1	-	2	-	1	1	1	2	-	-	-	2	-	1	1	-	-	-	-
Paralysis - - - - - -	2	1	-	1	-	-	-	-	1	1	-	-	-	-	-	-	1	1	1	-	-	-	-
Neuralgia - - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertigo - - - - - -	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Inflammation of the Lungs and Pleura - - - - - -	2	-	-	-	-	-	2	-	1	1	-	2	-	-	-	-	1	1	-	-	-	-	-
Phthisis and Hæmoptysis - -	4	-	-	7	4	-	1	-	2	5	2	2	-	-	-	1	1	9	3	10	-	3	3
Asthma - - - - - -	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Disease of the Heart, Functional	1	-	1	2	5	1	-	-	1	4	1	5	-	-	-	-	1	2	1	4	1	-	-
Aneurism - - - - - -	-	-	-	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hæmorrhoids - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Varix - - - - - - -	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1	-	-	-
Inflammation of the Stomach and Bowels - - - - - -	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Dysentery - - - - - -	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-
Diarrhœa - - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Disease of the Liver - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inflammation of the Kidneys and Bladder - - - - - -	2	-	-	3	2	-	-	-	2	-	-	1	-	2	-	-	-	3	3	1	-	3	-
Syphilis - - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-
Orchitis - - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-
Stricture - - - - - -	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Incontinence of Urine, &c. - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rheumatism - - - - -	3	-	-	4	6	1	2	-	-	3	-	3	-	1	-	-	-	6	5	4	-	1	1
Diseases of the Bones and Joints	-	-	-	-	2	-	2	-	-	-	-	-	-	-	-	-	-	1	-	-	1	1	-
Inflammation of the Eyes - -	1	-	-	-	-	-	-	-	-	-	2	-	-	1	-	-	-	3	1	-	-	-	-
Amaurosis and Cataract - -	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Otitis and Deafness - - -	1	-	-	-	-	-	2	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-
Erysipelas - - - - -	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scrotula - - - - - -	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	2	-	-	-	1	-	1	-
Bubo (*Symp.*) - - - -	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-
Abscess - - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	-	2	-
Ulcer - - - - - -	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eruptions, &c. - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dyspepsia and Debility - -	-	-	-	1	-	-	-	-	-	1	-	3	-	1	-	-	-	1	1	2	1	1	-
Dropsy - - - - -	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Wounds - - - - - -	-	-	-	3	-	-	-	-	-	-	-	1	-	-	1	1	-	3	1	3	1	2	-
Hernia - - - - - -	1	-	1	2	1	-	1	-	4	3	1	-	1	-	-	-	-	3	3	2	-	2	1
TOTAL - - -	22	1	2	32	24	3	15	1	13	23	8	20	1	6	1	7	4	45	28	32	4	16	5

TABLE, No. 3.

from each SHIP on the HOME STATION.

Fox.	Frederick William.	Geyser.	Gladiator.	Hastings.	Hawke.	Hector.	Hellcon.	Implacable.	Impregnable.	Indus.	Irresistible.	Lion.	Liverpool.	Martin and Seaflark.	Medusa.	Pembroke.	Prince Consort.	Research.	Royal Adelaide.	Royal George.	Royal Sovereign.	St. George.	St. Vincent.	Salamis.	Scorpion.	Victoria and Albert.	Victory.	Wellesley.	Wivern	TOTAL.
-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	4
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
-	-	-	1	-	-	-	-	-	-	-	2	-	1	1	-	-	-	-	-	-	-	2	2	1	-	-	-	-	-	27
-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	1	-	-	1	-	-	2	-	-	-	1	-	-	16
-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	9
-	1	-	1	-	1	3	-	-	5	1	2	2	2	-	-	1	2	-	1	1	1	4	2	-	-	-	4	1	1	89
-	-	-	2	1	-	6	-	2	1	4	1	-	-	1	-	-	-	1	1	-	-	-	6	-	1	1	-	-	-	57
-	2	-	-	-	-	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	11
-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	2
-	1	-	-	-	-	1	-	-	-	-	1	-	1	-	-	-	-	-	-	-	1	-	-	1	-	-	2	1	-	28
-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	4
1	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
-	1	-	-	-	-	2	-	-	2	-	2	-	1	-	-	-	4	-	1	-	1	-	2	-	-	1	3	2	-	61
-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	-	12
-	1	-	-	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	5
-	1	-	3	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15
-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	11
-	1	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	-	-	-	-	-	1
-	-	-	1	-	-	1	-	-	7	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	-	16
-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	2	-	-	-	-	1	-	1
-	1	-	-	-	-	5	-	-	2	3	-	1	-	-	-	-	2	-	1	-	1	2	4	2	-	-	3	-	-	41
-	-	-	1	-	-	-	-	-	1	-	-	2	-	-	1	-	1	-	-	-	1	2	-	-	-	-	-	-	-	35
2	11	1	10	3	2	25	1	4	26	12	12	4	11	4	2	2	13	2	6	4	4	5	29	5	1	2	16	11	1	543

TABLE, No. 4. - - - - - - - -

SHOWING the Number of DEATHS in each - - - -

CAUSE OF DEATH.	Achilles.	Arethusa.	Asia.	Black Prince.	Blenheim.	Boscawen.	Britannia.	Cambridge.	Canopus.	Castor.	Constance.	Cumberland.	Dasher.	Dauntless.	Defence.	Donegal.	Duke of Wellington.	Eagle.	Edgar.	Excellent.
Continued and Remittent Fever	2	1	1	–	–	–	–	2	1	–	–	–	–	–	–	2	–	–	–	–
Inflammation of the Brain	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	1
Apoplexy	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–
Epilepsy	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Paralysis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Inflammation of the Lungs and Pleura	1	–	4	–	–	–	–	–	1	–	–	1	–	–	2	–	–	–	1	2
Phthisis	1	–	3	–	1	1	1	2	–	1	–	1	1	–	1	1	2	–	1	2
Disease of the Heart	–	–	1	1	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–
Aneurism	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Gastritis	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Enteritis	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–
Cancer of Stomach	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Cholera	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Disease of the Liver	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Jaundice	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1	–	–
Nephritis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Stricture	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Rheumatism	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Erysipelas	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Psoas Abscess	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Carbuncle	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Dropsy	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Debility	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–
Wounds and Injuries	1	–	3	1	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–
Drowned	–	–	–	1	–	–	–	–	–	–	1	1	–	1	–	–	–	–	–	–
Not stated	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
TOTAL	5	1	16	3	1	1	3	4	4	1	1	5	1	1	3	3	3	1	2	7

TABLE, No. 4.

Ship employed on the HOME STATION.

Fisgard.	Formidable.	Frederick William.	Geyser.	Gladiator.	Hastings.	Hawke.	Hector.	Implacable.	Impregnable.	Indus.	Irresistible.	Lion.	Liverpool.	Pembroke.	Prince Consort.	Research.	Royal Adelaide.	Royal George.	Royal Sovereign.	George.	Vincent.	Salamis.	Saturn.	Scorpion.	Trafalgar.	Victoria and Albert.	Victory.	Wellesley.	TOTAL.
								1	1																			1	13
								1							1														4
			1							1													1						4
																												1	1
																											1	1	2
						1			1	2	1	1	1						1		1					1	1	1	24
					2	1	1		3		1	2	1	2	3		1	1		2	1			1					41
	1		1							3			1				1												10
											1														1				2
	1			1						1																			1
					1					1							1				1								4
																													3
																													1
																													1
																													1
																													1
				1																									1
																			1									1	3
												1																	1
																													1
															1														1
																													1
1										1						1					1								10
		1			1				1	2	1	1		2	1					1					1				16
														1							1								3
1	2	1	3	1	4	2	1	2	6	11	4	5	3	5	6	1	4	1	2	3	4	1	1	1	2	1	2	5	151

T[illegible], No. 5.

SHOWING the Name[illegible]s of the SHIPS; the Average Complements, &c.; the Number of Cases; the Total Number of Days' Sickness on Board; the Average Number of Men Sick Daily, in each SHIP, and the Number Discharged to Hospital.

C. Commissioned. P. O. Paid off. D. Returns defective.

RATE, &c.	NAMES OF SHIPS.	Where Commissioned.	When Commissioned.	Number of Guns.	Tonnage.	Horse Power.	Period.	Average Complements.	Average Complements Corrected for Time.	Number of Cases of Disease and Injury.	Number of Days' Sickness on Board.	Average Number of Men Sick Daily for Twelve Months.	Ratio per 1,000 of Average Force of each Ship.	Number Discharged to Hospital.
Ironclad	Achilles	Chatham	15 Sept. 1864	26	6,121	S.1,250	year	695	695	1,066	11,828	32·4	46·6	136
	Black Prince	Woolwich	18 June 1862	41	6,109	S.1,250	year	705	705	690	7,520	20·6	29·2	82
	Defence	Chatham	4 Dec. 1861	16	3,720	S. 600	year	465	465	646	6,042	16·6	35·6	91
	Hector	Portsmouth	13 Jan. 1864	20	4,089	S. 800	year	525	525	541	5,049	13·8	26·2	85
	Prince Consort	Devonport	14 Jan. 1864	31	4,045	S.1,000	year	595	595	809	8,368	22·9	38·4	101
	Research	Devonport	11 Mar. 1864	4	1,253	S. 200	year	125	125	270	2,617	7·1	56·8	42
(Cupola)	Royal Sovereign	Portsmouth	- - -	5	3,765	S. 800	year	160	160	156	1,516	4·1	25·6	37
(Cupola)	Scorpion C.	Devonport	10 July 1865	4	1,857	S. 350	20 July to 31 Dec.	150	60	106	1,113	3·	50·	9
(Cupola)	Wivern C.	Portsmouth	28 Sept. 1865	4	1,899	S. 350	28 Sept. to 31 Dec.	150	40	30	294		20·	1
Second Rate	Edgar P. O.	Portsmouth	11 July 1862	71	3,094	S. 600	1 Jan. to 14 Dec.	840	800	986	8,153	22·3	27·8	142
	Revenge C.	Devonport	1 Sept. 1865	73	3,320	S. 800	1 Sept. to 31 Dec.	360	120	166	1,351	3·7	30·8	19
Fourth Rate	Arethusa C.	Sheerness	3 June 1865	35	3,141	S. 500	16 June to 31 Dec.	480	260	608	6,770	18·5	71·1	34
	Constance C.	Devonport	13 June 1865	35	3,213	S. 500	13 June to 31 Dec.	500	270	532	4,841	13·2	48·8	48
	Liverpool C.	Devonport	30 April 1863	39	2,656	S. 600	year	550	550	741	5,678	15·5	28·1	48
Sixth Rate	Gladiator	Devonport	16 Mar. 1864	6	1,210	P. 430	year	205	205	275	2,084	5·7	27·8	39
Sloop	Geyser P. O.	Devonport	23 June 1860	6	1,054	P. 280	1 Jan. to 1 June	170	70	112	1,432	3·9	55·5	15
Stationary Ship	Active	Chatham	8 May 1863	20	1,627	-	year	35	35	40	429	1·1	31·4	3
	Asia	Portsmouth	1 April 1862	-	2,289	-	year	1,625	1,625	608	4,606	12·8	7·8	200
	Cambridge	Devonport	1 Mar. 1862	78	2,139	-	year	650	650	670	4,143	11·3	17·3	147
	Canopus	Devonport	1 April 1863	8	2,257	-	year	355	355	462	2,467	6·7	18·8	146
	*Cumberland	Sheerness	1 Jan. 1864	24	2,214	-	year	1,050	1,050	709	6,820	18·6	17·7	87
	Duke of Wellington	Portsmouth	1 May 1863	49	3,771	S. 700	year	420	420	505	3,205	9·	21·4	174
	Excellent	Portsmouth	1 Jan. 1863	-	2,311	-	year	1,095	1,095	1,161	6,594	18·	16·4	287

* Including Sheerness Naval Barracks.

	Fisgard	Woolwich	1 Jan. 1863	42	1,069	–	year	300	300	541	4,040	12·7	42·3	98
	Formidable	Sheerness	1 Jan. 1865	26	2,289	–	year	235	235	268	1,848	5·	21·2	19
	Indus	Devonport	1 Jan. 1864	–	2,098	–	year	1,100	1,100	562	4,902	13·4	12·1	126
	Royal Adelaide	Devonport	1 Jan. 1862	26	2,446	–	year	340	340	180	2,154	5·9	17·3	21
	Victory	Portsmouth	1 Jan. 1862	12	2,164	–	year	385	385	200	1,938	5·3	13·7	82
Drill Ship	Brilliant	Woolwich	1 April 1862	16	954	–	year	30	30	23	221	·6	20·	4
	Castor	Chatham	1 April 1862	22	1,293	–	year	50	50	43	354	·9	18·	1
	Dædalus	Devonport	1 April 1862	16	1,082	–	year	45	45	60	694	1·9	42·2	–
	Eagle	Liverpool	1 July 1862	16	1,723	–	year	35	35	34	288	·7	20·	3
	President	Woolwich	1 Apr. 1862	16	1,537	–	year	40	40	32	242	·6	15·	2
	Saturn	Pembroke	1 Jan. 1863	–	1,616	–	year	75	75	44	363	·9	12·	1
	Trincomalee	Chatham	1 April 1862	16	1,066	–	year	30	30	19	218	·5	16·6	1
	Winchester	Liverpool	1 July 1862	12	652	–	year	35	35	19	164	·4	11·4	–
Coast Guard Ship	Blenheim	Portsmouth	12 June 1860	60	1,822	S. 450	1 Jan. to 31 Aug.	375	250	203	2,437	6·6	26·4	10
	Dauntless	Sheerness	1 April 1864	31	1,575	S. 580	year	215	215	176	1,351	3·7	17·2	30
	Donegal	Devonport	1 Sept. 1864	81	3,245	S. 800	year	315	315	597	5,943	16·2	51·4	15
	Frederick William	Portsmouth	1 July 1864	74	3,241	S. 500	year	320	320	407	3,942	10·8	33·7	74
	Hastings	Liverpool	1 July 1862	50	1,760	S. 200	year	170	170	115	880	2·4	14·1	34
	Hawke P. O.	Sheerness	18 Dec. 1856	60	1,754	S. 200	1 Jan. to 24 Mar.	255	65	64	523	1·4	21·5	5
	Irresistible	Sheerness	1 April 1864	60	2,642	S. 400	year	315	315	355	3,554	9·7	30·7	45
	Lion	Devonport	1 July 1864	60	2,611	S. 400	year	355	355	344	3,601	9·8	27·6	45
	Pembroke	Sheerness	1 Mar. 1858	60	1,758	S. 200	year	155	155	254	3,356	9·1	58·7	13
	Royal George	Devonport	1 April 1864	72	2,616	S. 400	year	325	325	447	3,718	10·1	31·	15
	St. George	Devonport	10 Feb. 1864	72	2,864	S. 500	year	300	300	239	2,709	7·4	24·6	21
	Trafalgar	Sheerness	1 Mar. 1864	72	2,900	S. 500	year	310	310	334	4,099	13·6	43·8	13
Training Ship	Boscawen	Southampton	5 Mar. 1862	20	2,213	–	year	400	400	248	3,426	9·3	23·2	31
	Britannia (for Cadets)	Portsmouth	1 Jan. 1864	8	2,616	–	year	440	440	601	4,153	11·3	25·6	110
	Implacable	Devonport	1 Jan. 1865	18	1,882	–	year	405	405	426	3,797	10·4	25·6	32
	Impregnable	Devonport	1 Jan. 1862	78	2,406	–	year	755	755	423	2,723	7·4	9·8	121
	St. Vincent	Portsmouth	1 Jan. 1862	26	2,612	–	year	610	610	542	2,709	7·4	12·1	21
	Wellesley	Chatham	1 Jan. 1862	72	1,746	–	year	410	410	247	2,260	6·2	15·1	49
Steam Vessel	Dasher	Portsmouth	1 Jan. 1863	2	260	P. 100	year	260	260	191	1,891	5·1	19·6	10
	Helicon C.	Portsmouth	16 Sept. 1865	2	837	P. 250	22 Sept. to 31 Dec.	65	15	39	163	·4	26·6	10
	Jackal	Devonport	9 Feb. 1864	4	340	P. 150	year	60	60	25	350	·9	15·	4
	Lizard	Sheerness	2 July 1860	3	340	P. 150	year	45	45	50	420	1·1	24·4	1
	Medusa D.	Sheerness	1 Sept. 1863	–	880	P. 312	1 Jan. to 28 Nov.	65	60	80	913	2·5	41·6	18
	Salamis	Sheerness	3 May 1854	2	835	P. 250	year	65	65	96	858	2·3	35·3	20
Yacht	Osborne	Portsmouth	21 Jan. 1865	2	1,034	P. 430	year	80	80	94	650	1·8	22·5	3
	Victoria and Albert	Portsmouth	1 Jan. 1865	2	2,345	P. 600	year	185	185	83	515	1·4	7·5	21
Store Ship	Dee	Woolwich	12 June 1863	1	704	P. 220	year	70	70	68	503	1·3	18·5	10
	Fox	Portsmouth	22 Feb. 1862	2	1,131	S. 200	year	105	105	153	1,100	3·	28·5	7
Brig	Ferret	–	–	8	353	–	year	80	80	182	1,775	4·8	60·	14
	Martin D.	–	–	10	481	–	year	135	135	282	1,907	5·2	38·5	21
	Sealark D.	–	–	8	319	–	year	130	130	168	907	2·4	18·4	17
	Squirrel	–	–	10	428	–	year							

TABLE, No. 6. - - - - - - - - -

SHOWING the Number of CASES of all DISEASES and - - - - - -

DISEASE OR INJURY.	Achilles.	Active.	Arethusa.	Asia.	Black Prince.	Blenheim.	Boscawen.	Brilliant.	Britannia.	Cambridge.	Canopus.	Castor.	Constance.	Cumberland.	Dædalus.
Continued and Remittent Fever -	4	-	1	7	2	1	1	-	4	25	7	3	10	9	3
Intermittent Fever - - -	3	-	1	2	-	2	1	-	-	3	2	-	2	25	-
Small-pox - - - - - -	-	-	-	-	-	-	3	-	-	3	1	-	-	-	-
Varicella - - - - - -	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-
Scarlatina - - - - - -	-	-	-	1	-	-	-	-	25	-	-	-	-	-	-
Measles - - - - - -	9	-	-	-	-	1	-	-	1	4	7	-	1	-	-
Vaccinia - - - - - -	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-
Disease of the Brain - - -	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Apoplexy - - - - - -	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Epilepsy - - - - - -	4	-	-	2	2	1	1	-	-	4	1	-	3	4	-
Paralysis - - - - - -	-	-	-	1	1	-	-	-	1	1	-	-	-	-	-
Insanity - - - - - -	-	-	-	4	1	-	-	-	1	-	1	-	-	1	-
Delirium Tremens - - -	3	-	-	6	1	-	-	1	-	-	4	-	-	-	-
Neuralgia - - - - - -	-	-	2	-	2	-	-	1	1	2	-	1	-	-	1
Vertigo - - - - - -	-	-	-	1	3	-	-	-	-	-	-	-	-	-	2
Inflammation of the Lungs and Pleura - - - - -	16	3	6	13	17	4	10	-	8	11	25	1	2	5	2
Phthisis and Hæmoptysis - -	6	-	3	9	4	2	1	-	-	7	8	2	8	8	-
Influenza and Catarrh - -	98	7	15	64	106	36	21	4	78	72	40	3	37	90	13
Cynanche - - - - - -	44	2	75	22	29	9	15	1	141	21	8	3	11	15	4
Asthma - - - - - -	-	-	-	1	-	-	-	-	-	3	-	-	-	-	1
Disease of the Heart, Functional and Organic - - - -	4	-	1	4	14	1	1	-	2	6	7	-	1	11	-
Aneurism - - - - - -	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Hæmorrhoids - - - - -	4	-	1	2	1	-	-	-	-	3	1	-	2	1	-
Varix - - - - - - -	1	-	1	-	5	-	-	-	-	3	2	-	-	-	-
Inflammation of the Stomach and Bowels - - - - -	3	-	1	-	a 2	-	-	-	4	-	-	-	-	2	-
Cholera - - - - - -	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-
Dysentery - - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diarrhœa - - - - - -	28	4	15	22	46	3	3	1	16	28	6	1	13	32	3
Constipation and Colic - -	13	2	-	13	2	-	-	-	21	8	-	-	7	9	-
Inflammation of the Liver - -	-	-	1	1	-	1	-	-	6	11	-	-	-	4	-
Jaundice - - - - - -	-	-	-	2	3	-	-	-	-	-	-	-	-	-	-
Inflammation of the Bladder and Kidneys - - - - -	-	-	1	2	2	-	3	1	1	3	-	-	1	3	-
Syphilis, Primary and Secondary	117	-	27	97	33	15	3	-	27	74	108	-	62	62	3
Gonorrhœa - - - - - -	23	-	12	41	8	-	3	-	6	28	12	-	28	42	1
Orchitis - - - - - -	19	-	6	21	12	6	1	-	6	5	15	-	9	26	-
Stricture of the Urethra - -	3	-	1	4	-	-	1	-	-	2	-	-	1	3	-
Incontinence of Urine, &c. -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rheumatism - - - - -	86	4	28	54	61	13	20	4	11	55	22	10	21	53	3
Gout - - - - - - -	2	2	-	10	-	-	-	-	-	1	1	-	-	2	-
Disease of the Bones and Joints -	3	-	-	-	6	-	-	-	-	3	1	-	-	2	-
Inflammation of the Eyes - -	22	-	6	3	3	2	3	-	4	9	5	1	5	9	1
Amaurosis and Cataract - -	1	-	-	1	-	-	-	-	-	-	-	-	3	1	-
Otitis and Deafness - - -	7	1	1	2	5	-	1	-	3	7	1	1	3	-	-
Erysipelas - - - - - -	1	-	3	-	-	-	-	-	-	1	-	-	-	-	-
Scrofula - - - - - -	1	-	-	-	1	-	-	-	-	-	-	-	1	1	-
Bubo (*Symp.*) - - - -	28	-	10	12	26	3	-	-	1	2	3	-	6	3	1
Phlegmon and Abscess - -	123	3	153	49	92	35	41	3	78	71	45	9	82	73	1
Ulcer - - - - - - -	81	-	81	27	30	11	28	-	21	18	16	2	40	24	2
Psora - - - - - - -	12	1	4	3	1	2	17	-	2	20	24	-	16	10	-
Eruptions, &c. - - - -	8	-	5	3	6	-	12	-	9	16	5	-	3	6	-
Dyspepsia and Debility - -	41	3	12	19	11	8	-	1	43	27	12	-	54	45	7
Scurvy - - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purpura - - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Headache, &c. - - - - -	1	1	-	-	-	2	-	-	-	3	1	-	-	2	-
Dropsy - - - - - -	-	-	-	4	-	-	-	-	-	4	-	-	-	1	-
Worms - - - - - -	d 1	-	1	e 1	-	-	-	-	-	-	-	-	-	-	d 1
Wounds and Injuries - - -	230	6	130	70	142	44	62	6	64	100	64	6	93	113	10
Burns and Scalds - - - -	8	-	2	3	5	1	5	-	3	1	2	-	6	2	1
Hernia - - - - - -	1	1	2	3	4	-	1	-	-	5	3	-	1	-	-
Submersion - - - - -	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Alcoholic Poisoning - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Colica Pictonum - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poisoning by Opium - - -	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL - - -	1,060	40	608	608	690	203	248	23	601	670	462	43	532	709	60

a Hæmatemesis.

b 2 Hæmatemesis; 1 Metœna.

TABLE, No. 6.

INJURIES in each Ship employed on the HOME STATION.

Dasher.	Dauntless.	Dee.	Defence.	Donegal.	Duke of Wellington.	Eagle.	Edgar.	Excellent.	Ferret.	Fisgard.	Formidable.	Fox.	Frederick William.	Geyser.	Gladiator.	Hastings.	Hawke.	Hector.
3	1	4		8	3	2	14	4	1	11	1	10	2	1	8	1	1	5
	2			2	4		2	6		4	2	15	2	2		2		2
				3						1		2						
							2	1										
								5		1								
											1			1	1			1
1	1		5	1	1		2	1		1	1				4	1	1	3
1					2		1	1			2				1			
	1				2					1								
			3		5		1			4	3	2	1					
3	1		2	2	1			6	1	1	1		1	1	1	1	1	3
				1	3			1		7			1					
2	2	2	11	6	8	1	13	13	4	31	3	1	3	1	8	4	2	16
	3		7	3	9	1	6	11		1	1		5		3	2	2	5
17	31	5	45	169	30	10	80	177	16	23	27	18	52	11	20	5	5	34
3	3	3	25	18	25		55	68		11	4	4	13	1	9	4	2	26
								4										
	1		3	3	3	1	3	10	1	11	2	3	1		6	4	1	5
								1		1								
	1			2	4		1	4		2	1		8		1			2
							1	2					3		1			2
			1							1								
							1	b 4		1	1							2
										1						1		2
										8						1		
8	5	2	4	62	11		24	52	2	28	9	4	6	5	2	7		7
4	1		4	1	5	1	5	8		5		1	6	1	9	1	1	4
2			3				1	1		1								3
	3		1			1	3	1		1						1		
													2					1
5	34	3	51	39	105	1	149	c 4	1	c 1	17	10	48	14	25	21	1	56
4	2	4	6	18	32		12	115	4	68	4	3	10	2	3	5	1	8
6	6	2	9	17	10	1	21	32	2	105	4	3	3	7	7	2	2	11
1		1	2	2	5		1	10		6	8	5	2					4
								2		2	1		2					
18	6	2	27	30	30	4	58	77	5	30	17	8	33	4	17	7	6	22
2	2	2	2		3	3				8	4		1			1		1
			4		2		2	6	1	4	1		1	1				
1	3		10	6	6		5	10		16	5	1	7	1		2	1	2
					1		1			1					4			
			3		3		4	1	5			1			3	1		2
			2	1	1		1	2									1	2
		2	1		2			4		1			2		1			2
3	3	2	15		6		10	16		6	5	2	3		4	1		4
27	16	13	169	71	49	5	194	160	59	30	46	15	50	20	51	9	7	93
17	5	1	19	31	32		87	44	25	17	18	9	22	8	11	7	9	46
	3	1	4	7	6		24	1	2	20	6	4	22		1	1		14
4	1	1	1	3	5		14	19	2	7	1		3	4		1	1	31
14	13		18	1	9	1	29	36	2	17	22	7	10	2	7	4	1	8
							1											1
														1				
5							1	1	3			1		1				1
								3					d 1					
d 1		d 1			d 1		d 1	d 1										
34	29	16	181	87	71		136	210	44	37	45	32	21	22	61	18	17	105
4	2	1	6	2	3		14	8	1	3	5	2	3		1		1	4
1			1		5		5	1		3	4		2					1
									1						1			
						1												
191	176	68	646	597	505	34	986	1,161	182	541	268	153	407	112	275	115	64	541

continued at page 34.

c 1 Hæmaturia. d Tænia. e Ascarides.

TABLE, No. 6.—Showing the Number of Cases of all Diseases and - - - -

continued from page 33.

DISEASE OR INJURY.	Helicon.	Implacable.	Impregnable.	Indus.	Irresistible.	Jackal.	Lion.	Liverpool.	Lizard.	Medusa.	Osborne.	Pembroke.	President.	Prince Consort.	Research.
Continued and Remittent Fever	–	10	8	13	6	1	9	–	–	–	1	9	–	1	5
Intermittent Fever	–	–	1	5	–	–	5	–	2	3	2	2	1	–	4
Small Pox	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–
Varicella	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Scarlatina	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–
Measles	–	–	1	5	–	–	–	1	–	–	–	–	–	–	–
Vaccinia	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–
Disease of the Brain	–	3	–	–	–	–	–	–	–	–	–	–	–	–	–
Apoplexy	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–
Epilepsy	1	1	1	2	3	1	1	2	–	–	–	5	–	2	3
Paralysis	–	–	1	4	–	–	–	–	–	–	–	–	–	1	–
Insanity	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–
Delirium Tremens	–	–	–	2	2	–	1	–	–	2	–	–	–	–	–
Neuralgia	–	–	–	–	–	–	1	6	–	–	1	–	–	–	1
Vertigo	–	–	1	–	–	1	–	–	–	–	–	–	–	–	–
Inflammation of the Lungs and Pleura	–	4	16	29	–	–	12	10	–	5	–	3	–	16	2
Phthisis and Hæmoptysis	–	2	3	4	3	–	7	3	1	2	–	1	–	8	–
Influenza and Catarrh	–	22	63	51	40	1	45	150	9	5	24	69	15	75	37
Cynanche	1	14	36	7	13	1	17	17	2	1	1	9	–	31	16
Asthma	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–
Disease of the Heart, Functional and Organic	–	4	2	5	2	–	–	4	1	–	1	4	–	2	1
Aneurism	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1
Hæmorrhoids	–	–	1	2	–	1	–	5	–	–	–	–	–	2	2
Varix	–	1	1	–	1	–	–	–	–	–	–	1	–	1	1
Inflammation of the Stomach and Bowels	–	–	–	a 1	–	–	–	1	–	–	–	–	1	1	1
Cholera	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–
Dysentery	–	–	–	–	1	–	2	–	–	1	–	1	–	1	–
Diarrhœa	–	5	2	31	8	–	9	15	–	10	4	10	2	23	11
Constipation and Colic	–	1	–	5	3	–	8	18	1	1	1	6	–	–	2
Inflammation of the Liver	–	–	–	1	–	–	–	1	–	1	–	–	–	–	–
Jaundice	–	3	1	1	2	–	1	–	–	–	–	–	–	–	–
Inflammation of the Bladder and Kidneys	–	b 2	c 5	–	b 2	–	–	1	–	–	–	–	–	1	–
Syphilis, Primary and Secondary	3	1	4	58	37	1	24	56	4	13	5	20	–	116	21
Gonorrhœa	–	3	3	38	6	–	8	7	–	2	–	4	–	20	7
Orchitis	–	3	7	15	3	–	6	10	1	5	1	9	–	16	5
Stricture of the Urethra	–	–	–	5	4	–	1	–	–	–	1	–	1	3	–
Incontinence of Urine, &c.	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–
Rheumatism	2	9	20	43	50	1	32	56	7	7	6	12	2	65	21
Gout	–	–	–	2	–	–	–	2	–	–	2	–	–	–	–
Disease of the Bones and Joints	–	1	–	–	1	–	–	–	–	–	1	3	–	2	1
Inflammation of the Eyes	2	2	10	13	5	1	5	5	1	3	1	7	–	7	4
Amaurosis and Cataract	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–
Otitis and Deafness	–	P	–	–	3	–	1	3	–	–	–	–	–	5	–
Erysipelas	–	2	3	2	8	1	1	–	1	–	–	2	–	–	–
Scrofula	–	–	–	1	–	–	–	–	–	–	–	2	–	–	–
Bubo (*Symp.*)	2	4	1	8	5	1	2	11	–	–	–	–	–	20	3
Phlegmon and Abscess	4	118	66	40	48	6	42	171	9	10	16	13	2	140	19
Ulcer	–	57	58	16	17	–	12	42	2	1	1	5	–	46	7
Psora	–	47	–	13	2	–	9	–	–	–	1	4	–	19	4
Eruptions, &c.	3	14	25	15	3	–	2	24	–	1	1	6	1	16	29
Dyspepsia and Debility	–	6	15	18	13	–	23	5	2	–	3	3	2	8	7
Scurvy	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Purpura	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–
Headache, &c.	–	1	1	1	–	–	4	–	1	–	1	2	–	2	3
Dropsy	–	1	2	1	–	–	–	2	–	–	–	–	–	–	2
Worms	1	2	d 1	–	d 1	–	–	–	–	–	–	–	–	d 6	d 1
Wounds and Injuries	–	73	54	95	58	7	53	107	6	7	19	37	5	134	46
Burns and Scalds	–	7	3	2	–	–	1	3	–	–	–	2	–	6	2
Hernia	–	–	1	1	–	–	–	2	–	–	–	1	–	2	–
Submersion	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Alcoholic Poisoning	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–
Colica Pictonum	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Poisoning by Opium	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
TOTAL	19	426	423	562	355	25	344	741	50	80	94	254	32	809	270

a Hæmatemesis. b 1 Hæmaturia.

Injuries in each Ship on the Home Station—*continued.*

Revenge.	Royal Adelaide.	Royal George.	Royal Sovereign.	St. George.	St. Vincent.	Salamis.	Saturn.	Scorpion.	Seahark and Martin.	Squirrel.	Trafalgar.	Trincomalee.	Victoria and Albert.	Victory.	Wellesley.	Winchester.	Wivern.	TOTAL.
2	2	1		4	4		3			1	3	1		2	1			239
	1	1		1	2	2	3	3	1				2		5			130
	1														1			18
		1										1		3				11
	1												2	2				36
																		40
																		5
		1				1												6
2				1	3	2			2						6			7
		1							1						1			83
					1													22
								1			4			1	1			15
							3		3			2						48
					2						1			1				52
																		25
	2	5	6	7	4	1	1	1	1	4	4	2	2	6	4			400
	3	6		2	3					4		3	1	2	1		1	174
10	9	40	15	46	28	3	5	17	34	20	60	1	13	17	11	8	4	2,401
3	1	22	3	7	37	1	3	11	10	1	19		17	16	22			1,016
							1											12
	1	1	1		6			2	3		1	1						152
											1							6
	1	4									1							59
																		28
	2				1									2				30
																		8
														2				16
6	1	33	6	5	10	1	3	1	14	7	15		2	12	5	1	1	712
1	1	14		3	1	2	1		5	9			1		2		1	219
1	1									1						1		42
	1	4									1		1		2			33
				1	1					[b] 1	1			[b] 1				48
17	27	19	33	48	15	13	2	7		2	23		2	55	18		7	2,089
2	5	8	4	1	10	8		5		6	6		3	11	8		1	636
6	8	7	2	3	10	2	2		2	8	9		1	5	1		1	421
1				1	3				1		1							60
								1										3
7	11	61	13	5	11	9	8	7	3	5	7	1	5	30	24	2	4	1,398
				3							1		1					54
		1		2	6			1	2	2					1			63
5		10	3	1	12		1		2		5			1	6			270
		1											1					16
					7			2	5									82
	1	1		1	2					1					1			37
	3				2									1				28
1	6	1	7		3	1		3		1	6			6	5		1	273
33	44	64	17	40	105	14	1	13	93	23	44	2	9	42	32	4	2	3,233
16	4	7	3	8	71	7		4	33	30	17			11	21			1,285
3	6	5	2	9	31	3		1	3		4			7	28			438
1			3	3	18	1	2		11	15	5				2			371
8	9	32	7		35	7	2	4	1	1	20	1	7	17	7	1		757
																		2
																		2
	4	4		6					3	1		1		1				58
	1	1		1						2							1	28
		[d] 1			[d] 4													27
37	10	87	20	28	7	19	5	21	44	18	76	3	11	37	35	1	6	3,620
4	1	3	1		2	1		1	4	1			2	1	1	1		146
	3		1	2					1									58
																		2
																		2
																		2
																		1
166	180	447	156	239	542	96	44	106	282	158	334	19	83	290	247	19	30	21,507

[c] 3 Hæmaturia.

[d] Tenia.

MEDITERRANEAN STATION.

Mediterranean Station.

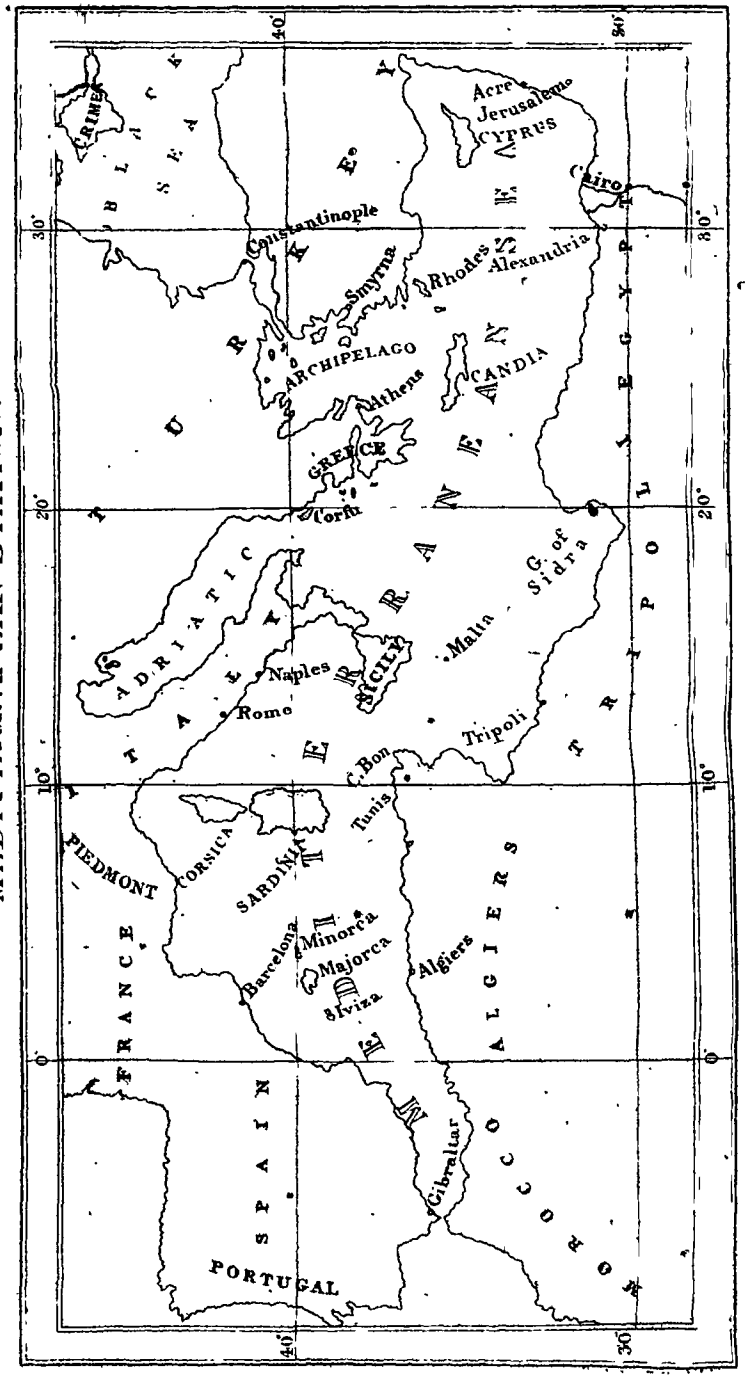
THERE were twenty-six vessels in the Mediterranean squadron in the year 1865, of which four were iron-clads; there was one vessel of the first rate; two of the second rate; one of the third rate; two of the fourth rate; and two of the sixth rate; three sloops; four steam vessels; four gun vessels; two gun-boats, and one receiving ship permanently stationed at Malta. The mean force corrected for time was 7,240, and the total number of cases of disease and injury entered on the sick-list, 10,051, which is in the ratio of 1388·2 per 1,000 of mean force. Of these, 249 were invalided and sixty terminated fatally; the former being in the ratio of 34·3 per 1,000, and the latter of 8·2. The ratios of cases and of mortality are slightly above those of the preceding year, but there is a decrease in the ratio of invaliding. Twenty of the vessels were on the station during the whole year, and the returns from the remainder vary from four to eleven months.

The daily loss of service from fevers, including the exanthemata, was equal to about thirty-five men, or in the ratio of 4·6 per 1,000 of mean force; from diseases of the brain and nervous system, about three men; of the organs of respiration, about forty men, or in the ratio of 5·4 per 1,000. The ratio per 1,000 of daily loss of service from diseases of the heart and bloodvessels was ·6; from diseases of the alimentary canal, 1·8; from diseases of the liver, ·2; of the genito-urinary organs, 5·2; from rheumatism, 4·4; diseases of the bones and joints, ·2; of the special senses, ·6; of the skin and cellular tissue, 11·8; from diseases not classed, ·11; and from wounds and injuries of various kinds, 8·4. The average number of men sick daily from all causes throughout the year was 242·4, which is in the ratio of 33·4 per 1,000 of mean force; being a decrease, when compared with the preceding year, equal to 11·6 per 1,000.

Fevers.—There were 544 cases of fever of a continued or remittent type; 124 of ague; seven of small-pox; two of measles,

(To face p. 36

MEDITERRANEAN STATION.



measles, and three of scarlatina, under treatment during the year: and of these, twelve cases of continued or remittent fever proved fatal.

Each case of primary fever was on an average about three weeks under treatment on board ship and in hospital; each case of ague, twelve days; each case of small-pox, twenty-four days; of measles, seven days; and of scarlatina, about twenty days.

Continued and Remittent Fevers.—There were twelve cases of primary fever in the Assurance, nine of which occurred during the Christmas quarter of the year, and appear to have been of considerable severity, one of them proving fatal in Malta Hospital. This epidemic occurred simultaneously with an outbreak of diarrhœa, ague being also very prevalent at the same time. Of the whole number of cases, one is stated to have been of an ephemeral character, one of the remittent type, and ten were examples of continued fever. The surgeon* of the vessel attributes the cases that occurred in the Christmas quarter, to malarious emanations. He says:—

"The original cause of those fevers was probably due to the malarious emanations from the extensive marshes which abound at the Sulina mouth of the Danube, as shown by the fact that many cases occurred on board whilst in the river, and many also soon after leaving it."

The vessel left the Danube for Constantinople and Malta on the 25th of September, and on her arrival at the latter port, on the 1st of October, was placed in strict quarantine, cholera being prevalent in the Danube, and some cases having occurred in the Assurance. All the cases under treatment in the ship were landed at the quarantine station, from whence they were finally discharged to the Naval Hospital on the completion of the prescribed period of quarantine.

"During the month of October, cases of fever continued to present themselves, as well as numerous cases of diarrhœa, the greatest number being between the 9th and 19th, when running the mail to Naples and back. In this run the weather was very bad, and the men were much exposed to it, which possibly may have had something to do in inducing disease. No case of fever of any consequence occurred in November or December, with the exception of one, a petty officer, who had only returned from hospital a few days before

* Surgeon C. Keenan.

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before. This was a very bad attack, and he was again sent to hospital on the third day of his relapse.

"It would thus appear that the morbific influences, whatever they were, were very active at Malta, and either gave rise to the fevers 'de novo,' or brought out the latent tendency to them which was contracted at Sulina. It may be remarked also, that these fevers, and especially the more severe forms, occurred in young persons under twenty-five years of age. All these cases were removed to hospital directly the tendency to the typhoid state was perceived.

"The chief peculiarities of the typhoid cases were that some of them were preceded by diarrhœa, more or less severe, for a few days before the invasion. Some were preceded by ague, or ephemeral fever, which passed off for a few days, when the fever came on with heat of skin, headache, pains in the limbs, &c. Others again on in a very insidious manner, the patient complaining of dysp and a general feeling of malaise for some days before the se and in some the fever appeared without any previous indispo n. In the fever itself, some of the cases were characterised by troublesome irritability of the stomach in the earlier stages of the disease, the patients being unable to retain anything on the stomach, and nearly all the typhoid cases had more or less severe diarrhœa at some stage of the fever. In one case only were the pinkish spots on the abdomen perceptible, but then the cases were early sent to hospital, so that I had not an opportunity of seeing them at a later period of the disease."

All the cases of continued fever which occurred in this vessel at Malta appear to have been of the enteric type, modified in some instances by previous exposure to malarious influences in the Danube.

There were six cases of primary fever in the Caledonia, one of which proved fatal. They occurred at different periods during the year, and in different localities, and appear to have had no connection with each other. The fatal case was one of enteric fever, occurring in the person of a mess servant, in the month of November, at Syracuse. He is said to have been originally of a robust habit of body, but that he had impaired his health by remaining continually between decks. He was placed on the sick-list on the 21st of November, and died on the 28th. He stated that he had been unwell for a few days before he presented himself for entry on the sick-list. No eruption was at any time apparent, but the bowels were very much relaxed, and there was occasional pain in the right iliac fossa. The prostration was exceedingly rapid, and not at all affected by the free and continued use of stimulants.

There was a single case of ephemeral fever in the Caradoc.

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In the Chanticleer there were seven cases of primary fever; the average duration of each case on board ship being between twenty-three and twenty-four days. They were of the remittent type, and appear to have been for the most part examples of what is commonly known as Malta fever.

All the cases of primary fever in the Cockatrice (nine in number), appear to have been of an ephemeral character, the average duration of each case being only between six and seven days. They occurred for the most part in the Midsummer quarter of the year, when the vessel was in the Danube.

There were seventy cases of primary fever in the Cossack, of which the assistant surgeon* of the ship says:—

"Five cases are classed as continued; the first of these was evidently contracted at Malta, and assumed a typhoid character; two other cases appeared in August, on the coast of Syria, and closely resembled 'typhus sine eruptione.' Of the five cases of continued fever, each case was, on an average, incapacitated for about forty-four days. Fifteen cases of remittent fever are returned, each having an average duration of twenty days. . . . . No fewer than fifty cases of febricula or ephemeral fever are noted, representing a total of 301 days' sickness, giving an average of six days to each case. The disease was most frequent during the summer and autumn, while anchored off Jûneh. At that time I felt inclined to attribute the disease to the effect of malaria, carried by the night land-breeze from the shore; but I now incline to the opinion that the exciting cause was rather to be traced to malaria inherent in the ship itself. This view is strengthened by the fact that most of the men who slept on deck under the waist awning escaped febrile attacks."

On Table IV. a death from fever appears in connection with this vessel. It occurred in a person who suffered from Guinea-worm, and was sent to Malta hospital, with extensive inflammation and suppuration of the thigh, following the removal of a portion of the parasite. The abridged history of his case, as furnished by the Deputy Inspector General† of the hospital, is as follows:—

". . . . received with Guinea worm, on the 31st of October. The parasite had caused the formation of several abscesses in the left thigh, from the openings of which several portions of it had been removed. Fomentations and poultices were topically applied, and the irritation and constitutional disturbance had ceased for some weeks

* Assistant Surgeon William Hutchinson Bell. † Dr. C. A. Anderson.

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weeks when he was attacked with fever, attended with much cerebral disturbance, under which he expired. Post-mortem research showed no connection between the parasite and the fatal affection. Guinea-worm appears to have been hitherto unknown on this station, and in the present instance seems to have been imported from the Syrian coast. The same remark obtains in the case of another man, belonging to the same ship, now in hospital, in whom the worm first showed itself in the right foot, and within the last fortnight a considerable length of it was extracted from the right thigh. Fresh abscesses are now forming in the region of the hip."

There were five cases of fever of a continued type and seventeen of ephemeral fever in the Enterprise. The average duration of each case of continued fever was about seventeen days, and of each case of ephemeral fever between three and four days. The cases of continued fever were chiefly of a mild character, but in two the convalescence was protracted. In one case there was tenderness in the right iliac fossa, and slight gurgling on pressure, but no spots were visible on the chest or abdomen. Twelve of the cases of ephemeral fever and two of the continued variety are supposed to have been occasioned by the vessel having been made fast to the innermost buoy in French Creek, in Malta harbour, close to the shore and to the openings of several sewers, the emanations from which were very perceptible. There appears to have been a tendency to febrile disease amongst the ship's company at the time. The ship was immediately removed to Sleima Creek, when this tendency disappeared.

In the Firefly, a surveying vessel, there were two cases of continued fever and three of the ephemeral type. Both of the former cases were attributable to insolation; and one of them was of an exceedingly protracted character, the person in whom it occurred, a young seaman, having been sixty-eight days under treatment. He had been leadsman in a surveying boat employed, in the month of August, on the coast of Sicily, and, from the nature of his duties, was not sheltered by the awning from the very powerful rays of the sun. The more immediate and urgent symptoms were speedily overcome; but during convalescence he was attacked with symptoms simulating remittent fever, which reduced him to a very low condition. Ultimately, however, he made a good recovery.

Only one case of primary fever was of any importance in the Gibraltar, and that terminated fatally on the ninth day. It occurred at the Piræus, in the person of a marine, and appears

appears to have been attributable to insolation. He had been in the habit of being drilled on shore with different parties of men, and although the drill hours were in the early morning, and after 4 p.m., the sun even then is said to have been very powerful. The attack was characterised by low nervous symptoms, and much vertigo. The bowels were not affected much, and there was no abdominal tenderness. During the night preceding his death he was suddenly seized with a convulsion which terminated in coma, in which condition, after lingering for some hours, he expired. No examination of the body appears to have been made after death.

There were eighteen cases of primary fever in the Hibernia, fifteen of these being of an ephemeral character. Of the other three cases, one was enteric and two remittent. They were of considerable severity, the average duration of each case on board ship being upwards of thirty-three days.

There were nine cases of primary fever in the Hydra, eight being ephemeral and one enteric. Each case of ephemeral fever was on an average from three to four days under treatment; the case of enteric fever was thirty-seven days on the sick-list. It was of a very decided character, the distinctive rose-coloured eruption and the diarrhœa and abdominal tenderness being well marked. The milder cases of fever were attributed to exposure to the noxious emanations from the marshes to the north-east of Phalerum Bay, where the vessel lay, and the ship's company were granted leave. Fever of a similar but more severe type was epidemic in the Piræus at the time.

In the Magicienne there were nine cases of primary fever, one of which proved fatal. Five of the cases were of the remittent and four of the enteric type. The average duration of each of the former cases on board ship was fifteen days, and of the latter thirty-three days. All the cases of enteric fever occurred in the Christmas quarter of the year when the vessel was at Patras; and with reference to them the following observations are made by the surgeon*:—

"Four cases of continued fever occurred in the month of October, at Patras, three of which ran rapidly into the typhoid state. One of these recovered, and convalesced well; the other two were discharged

* Surgeon James N. Dick.

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charged on the 9th of November to the Royal Naval Hospital at Malta, both in a very low state. The fourth case was at first simply a mild attack, but the patient subsequently suffered a relapse, from which he finally sank, well-marked typhoid symptoms being present for some days before his dissolution.

"I may here remark that, at the time these men were attacked, typhoid fever of a malignant type prevailed to a very great extent in many parts of Western Greece, but more particularly about the Gulf of Corinth, arising most probably from the circumstance, that the second, or St. Martin summer (which has not been felt in the Mediterranean for the last three years), followed so closely on the usual summer weather, that the consequence was a very lengthened period of hot season, which—taken in conjunction with a small amount of rain, not sufficient in itself to clear away the débris and accumulated animal and vegetable matter lying in and around the town of Patras—served only to cause emanations of impure gases to arise, and so impregnate the atmosphere.

"Amongst persons predisposed, the first symptom which attracted attention was a sense of languor, with debility and incapacity for mental or bodily exercise, followed by confusion of ideas, with momentary or continuous loss of memory, impairment of vision, or of some other of the special senses. This condition lasted for seven or eight days, in conjunction with loss of appetite and gastric derangement; when pains in the limbs, loins, or back, accompanied with severe headache and general weariness of the system, set in, aggravated by rigors of a most distressing character, and a general shrunken and shrivelled state of the integuments, more particularly of the hands and feet. Deafness, too, about this time, made its appearance, owing possibly to a general thickening and turgescence of the fauces leading to occlusion of the Eustachian tubes, and with it considerable intestinal irritation, as manifested by diarrhœa, tormina, flatulence, and tympanitis.

"The diarrhœa now became profuse and troublesome, and was accompanied with meteorism, or gaseous distension of the intestines; the abdomen became swollen to a large size, and the drum-like sound was audible on percussion over its whole extent. This mechanical state of distension was a great source of uneasiness; first from the accumulation of air in the stomach and intestines themselves; and secondly, by mechanical interference with the process of respiration, the descent of the diaphragm being impeded or prevented by the swollen state of the abdomen. In connection with this state, there was an irritable action of the intestines, causing constant diarrhœa, but with a scant discharge of fæcal matter, so that all substances taken into the stomach accumulated in the intestinal tract, while gases were generated in excess. The distress felt by this accumulation of air and fluid was extreme; the absorbent powers of the mucous surface seemed to be in abeyance, while the muscular powers were almost paralysed, and the intestines and stomach incapable of freeing themselves of their contents by peristaltic or anti-peristaltic action.

"A state of general prostration now set in; there was a flaccid appearance of the limbs, with dorsal decubitus, and general muscular debility,

debility, followed in a short time by semi-consciousness and half-closed vacant eyes; the expression of the countenance became dull and stupid, the mouth partly open, the lips dry and chapped, with dark-coloured sordes accumulating about the teeth and gums; the odour of the breath, and smell of the patient's person, was peculiar and offensive; the tongue, though moist, thickly covered with a dirty dark brown fur, and marked on the sides with impressions of the teeth, whitish fissures ran here and there across its surface, from which dark-coloured blood occasionally exuded, whilst its uncertain and tremulous motion on being protruded was most characteristic. The pulse was from 120 to 130, weak, and devoid of resiliency, but still with some volume, which, however, totally disappeared under firm pressure of the finger. Without positive delirium, there was occasionally much rambling, and the patients suffered from illusions and hallucinations, which were, however, dispelled when they were called by name, or otherwise forcibly roused.

"If from this state there was no amendment, the above symptoms became gradually more grave in character, the urine and fœces passed off involuntarily, the state of semi-insensibility passed into that of profound coma, the pulse became a thread, and the patient sunk by degrees with accumulation of mucus in the air-passages.

"In the treatment of this form of fever, cleanliness, ventilation, and separation of patients were the first most important rules observed, with the instant removal of all dejecta from the neighbourhood of the sick; and then the judicious employment of mild saline aperients, such as the sulphates of soda, potash, and magnesia, in drachm or two drachm doses, in conjunction with a few grains of calomel and compound antimonial powder, followed by the citrate or nitrate of potash. By these means a general, moderate, and continuous diaphoresis was maintained, so as not to disturb the equilibrium of the system, or to derange the action of internal organs, and causing also a copious flow of urine which before was scanty, high-coloured, and loaded with deposit, its specific gravity being also sensibly increased. A troublesome symptom, thirst, was relieved by a moderate use of iced water and camphor mixture, fruits being forbidden on account of their frequently producing overloading of the stomach, with weakness and irritation of that organ, flatulent distension, sometimes tympanites, and subsequently griping and diarrhœa. Quinine was found to be worthless in the treatment of this disease; in fact, it seemed to aggravate the symptoms, and to cause the partial deafness spoken of above, to become complete.

"In the after-treatment of these cases, stimulants, as port wine and brandy given freely, were found to be most useful, in combination with nutrients, such as essence of beef, calves' foot jelly, and beef tea, whilst a bland nutritious diet was supplied at regular periods, and strict attention paid to the primæ viæ."

The cases of remittent fever in this vessel occurred at Naples, in the summer season, and were of a very distinctive character. One case, in which the symptoms were more than usually violent, was discharged to hospital.

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There were ninety-nine cases of primary fever in the Meeanee, of which seventy-five are returned as being of the continued type, and twenty-four of the remittent; of these, five cases of continued fever occurred in the Lady quarter of the year; thirty-four of continued fever, and one of remittent, in the Midsummer quarter; thirty-five of continued, and sixteen of remittent, fever in the Michaelmas quarter; and one of continued, and seven of remittent, fever in the Christmas quarter. During almost all this time the vessel was employed at the Piræus of Athens. The average duration of each case of continued fever was 15·9 days, and of each case of remittent fever, 39·7 days. Some of the cases of both classes of fever were of great severity, and one proved fatal. The majority of cases that occurred in the Midsummer quarter of the year presented at Malta during a visit of the vessel to that port, of about a month's duration; with a few exceptions, they were of an ephemeral character, lasting only from two to five days. In those more protracted, the chief complaints were of slight frontal headache, anorexia, and irregular bowels; the tongue was white. As a rule, there was no perceptible heat of skin after the second day. In the Michaelmas quarter, however, the cases were much more serious, and with reference to them, the surgeon* of the Meeanee has the following remarks:—

"In the present quarter the loss of service has been from fever and rheumatism, both of which diseases have been considerably in excess and severity of those which presented in the quarter ending the 30th of September 1863, when the ship was stationed at this place, and when an outbreak of fever occurred on board .... After a comparatively mild winter and the continuance of rain into the early summer, quickly followed by unusually great heat, a sickly season was foretold for the neighbourhood of Athens, and of the Phalerum Marshes. As far as fevers are concerned, this prediction has been verified to its fullest extent, and the past season has been an unprecedentally unhealthy one, there having been, I am told, scarcely a house in the Piræus in which fever did not prevail. Strangers have been peculiarly liable to its influence, and I have been in attendance on four Maltese who arrived at the commencement of the epidemic; while, at the same time, I have witnessed a family of seven members all of whom were nearly simultaneously stricken with disease, some in the remitting, others in the intermitting, form. The deaths have been but few, but it has been noticed that where there was much cerebral disturbance a fatal result generally ensued. Under these circumstances it was not to be expected that living afloat would ensure

* Dr. William Ross.

ensure entire immunity from the disease, and accordingly an eruption of fever on board this ship has taken place, such as occurred during the period above named, differing, however, in this respect, that the present has been more severe, while fewer officers have been its victims. During fifty-five days of the quarter just terminated, the Meeanee lay at anchor in Phalerum Bay, in the direct line of the winds sweeping across the plain of Athens and over the Phalerum Marshes, which, for the reasons I have assigned, have doubtless continued to exhale malaria later in the present, than during former years. While fever prevailed to some extent on board this ship, I was, on inquiry, told that foreign vessels of war in the Piræus, which were not exposed to north-north easterly, the prevailing winds which cross the marshes, were almost free from the disease; and I have been informed that Her Majesty's ship Hydra, which arrived from Chalcis on the 24th of August free from fever, after having been at anchor off the marshes for seven days, sailed on the 31st of the same month with six men and several officers down with the complaint. If this latter statement is borne out by fact, it would go far to prove that in summer Phalerum Bay, with the winds I have named, is a more unhealthy anchorage than the Piræus. Of the cases of continued fever that occurred in the quarter under consideration, twenty-four of them may be dismissed with the remark that they were ephemeral, averaging under five days' sickness, nearly all characterised by slight frontal headache, languor, loss of appetite, a white tongue, and irregular bowels, without much heat of surface, for which, after aperients and diaphoretics, *quinine and sometimes* the bitter infusions were given; while the remainder were of a more or less serious nature, and one proved fatal. That was an example of typhus without eruption, ending, after violent cerebral excitement, in a gradual failure of the vital powers, with gangrene of the right foot, and soft parts over the sacrum. Many of the cases became complicated with other diseases both within the chest and abdomen, but especially with rheumatism, from which, setting aside the ephemeral cases of very short duration, nearly every other individual entered with fever during this quarter, of whatever character, suffered. This remark particularly applies to the cases of remittent fever. One case, eighty-three days on the sick-list, has since suffered from rheumatic orchitis. In another, 140 days under treatment on board and now in hospital, purpura and enlargement of the spleen followed the fever. In another, 104 days under treatment, rheumatism and prolapsus ani protracted the cure. The individual in this case was of a gouty diathesis. In another case, 126 days under treatment on board and in the Piræus temporary hospital, bronchitis extending to the pulmonary tissue proper, and going on to the formation of cavities in both lungs, followed the original complaint. This man remained in Malta Hospital on the 31st of December, and still in a very precarious state. Another case was complicated with double pneumonia, and followed by rheumatism. In another case cæcitis followed the fever, and after 119 days' treatment on board, the patient, an officer, remained in Malta Hospital at the close of the year. In all these severe cases incalculable injury has been done to the health of the individual, and

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from present observation, I believe that much future suffering from rheumatism is in store for many of them.

"With regard to the cases of remittent fever that presented in the third quarter, I may state that they were nearly all characterised by the same symptoms, although differing in severity, viz., rigors followed by heat, white tongue, irregular bowels, loss of appetite and occasional nausea, persistent frontal headache and vertigo, with prostration of strength. Exacerbation generally occurred towards evening, seldom with rigors, generally without any perceptible increase of heat, but invariably with augmentation of the headache. The treatment was aperients, diaphoretics, and afterwards quinine in two and four grain doses twice and thrice a day. In nearly every case a blister was applied to the nape or a seton inserted, sometimes with benefit, at other times without the least effect on the head symptoms, which, however, in the end yielded to time. While this epidemic lasted, the ship was perfectly clean and the bilges free from smell. The lower deck ports were open day and night, and the cockpits were constantly aired by windsails, while from the extreme want of moisture in the atmosphere, the decks after washing dried more quickly than usual. No exercise aloft was carried on, and all exposure to the sun was avoided as much as possible. I need hardly add that no cause existed within the ship to produce the disease, which I believe to have been solely due to the great heat, and it may be the inhalation of malaria, although it must be stated that the ship was quite a mile from the place whence these paludal exhalations arose."

The cases of fever that occurred in this epidemic in the Meeanee illustrate well the severe character of the complications and sequelæ that are liable to attend upon or follow what is commonly called Mediterranean fever. The removal of the ship from a locality of so unquestionably an unhealthy character, would have been the effective mode of dealing with an outbreak of disease of this kind, and it is unfortunate when the exigencies of the public service prevent such a step being taken. Numerous as the cases of fever were, they, in all probability, by no means indicated the whole amount of injury inflicted upon the ship's company, but were only the evidence of the more active operation in certain individuals of a poisonous influence to which all were alike exposed.

There were eight cases of primary fever in the Orlando, five being returned as ephemeral fever, two as remittent, and one continued. One case of remittent fever was invalided in consequence of rheumatism occurring as a sequela, but with this exception there was nothing of a noteworthy character in the cases occurring in this ship.

In the Pelican there were sixty-six cases of continued fever, all of which are returned as febricula. The average duration

duration of each case was a little over eight days. The majority of them occurred in the Michaelmas quarter of the year, at a time when diarrhœa was also very prevalent on board. So intimately connected were these two diseases with each other that it was difficult to decide, in some instances, which was the more prominent affection. Almost every case of febricula, however, was complicated with diarrhœa.

There were thirty-seven cases of primary fever in the Phœbe, one of which proved fatal in hospital. But little information is furnished with respect to these cases. In the one which terminated fatally the type was enteric, and the early symptoms, as often happens in this dangerous form of fever, appear to have been very obscure. On his admission to the sick-list, the man, a marine, stated that he had been frequently purged for some days previously, and that he had been in hospital in China and England with fever and dysentery. His stools contained no blood nor mucus, but were very loose. He became much emaciated during the week he was on the sick-list before being discharged to hospital, and was reduced to a state of great debility. He had no appetite, and was purged three or four times daily. On the morning of the day of his being sent to hospital, there was an aggravation of all these symptoms, and during the night he had been delirious. In this condition he was discharged to hospital on the 31st of July, and on his admission there, was found to have a well-developed typhoid eruption on his skin, accompanied by extreme nervous depression and diarrhœa. These symptoms ran on unfavourably, and he died on the 7th of August.

There was a single case of febricula in the Psyche, and six in the Racer, none of which call for any comments.

In the Resistance there were forty-three cases of primary fever, thirty-eight of which were returned as remittent, and five continued. The latter appear to have been of an ephemeral character, the average duration of each being only five days. Each case of remittent fever was, on an average, fourteen or fifteen days under treatment. A considerable number of these cases occurred in the persons of officers, several of whom were subsequently invalided, for rheumatism occurring as a sequela of the febrile attack. In a large number of instances the disease is referred to exposure at Malta.

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There were two cases of primary fever in the Revenge, each of which was on an average twenty days under treatment. They were attributed to exposure at Baiæ, and were chiefly characterised by steadily progressing emaciation and debility, with profuse night perspiration. There were not at any time active febrile symptoms.

There were fifty-four cases of primary fever in the Royal Oak, three of which proved fatal. Thirty-eight of these are returned as continued fever, two as remittent, and fourteen as ephemeral. With reference to these cases the surgeon* says:—

"Under the head of continued fever are included twelve cases of typhoid, more or less well marked, and a few others sent to hospital seem to have exhibited typhoid symptoms after admission. It was remarked last year that fever did not make its appearance until autumn. It showed itself earlier this year, but excepting one slight case in January, not until June, during which month five cases were entered, and between the first of July and the end of the year, forty-eight cases; the greater number, however, having been between the end of July and late in October. What was said in last Journal, therefore, with regard to exhaustion produced towards the end of summer, applies less in this case; except it be considered that the health of the ship's company at large was so much deteriorated that they were more easily affected, which in effect I believe to have been the case. Excepting the typhoid cases, they were all of much the same character as in 1864; mild in their general symptoms, but long continued, and in many instances complicated with, or followed by, rheumatism. Some of them showed marked remissions, but I hesitate to class them under the head of remittent fevers, since, whether continuous or attended by remissions, the general symptoms were the same, and in either case were equally apt to be followed by rheumatism. Besides, the remissions were principally two; namely, one soon after being confined to bed, the other before rheumatic symptoms set in. The first I set down to the rest and comfort of confinement to bed, the previous higher febrile movement being owing to the opposite state, viz., moving about at ordinary duties, and therefore in a certain degree artificial; the second I conceive to have been approaching convalescence, the subsequent exacerbation being the fever attending the rheumatic attack, present or approaching. Nevertheless, remissions did occur, independently of these two, in some cases."

The cases of enteric fever occurred in the Michaelmas and Christmas quarters of the year. The Royal Oak left Malta on the 1st of July, and the first case of fever, a mild one, occurred

* Surgeon John Jack.

occurred on the 10th; two more were added on the 28th; and two on the 29th, one of these being a Maltese boy, who, when first seen, laboured under well-marked typhoid symptoms. It appears that he had been lying about the decks unwell ever since leaving Barcelona on the 22nd of July, where he had been on shore for some hours; but little notice was taken of him, his shipmates thinking he was suffering from sea-sickness. His case presented marked enteric symptoms, but it terminated favourably. It is not improbable that, from this case, the disease spread to the others, who were affected in this vessel. Objection appears to be taken to this view of the introduction of the fever into the Royal Oak, on the ground that it was nearly a month since the ship had left Malta, and that the boy had not been anywhere subsequently where fever prevailed. It is no exaggeration, however, to say that there is hardly a town on the seaboard of the Mediterranean where enteric fever is not endemic; and Barcelona, where he undoubtedly landed, appears to be no exception to the rule. Privilege leave, moreover, seems to have been given to the ships' companies there, and the vessels of the squadron were visited by crowds of the inhabitants; so that it is unnecessary to fall back upon first causes to account for the origin of the disease *under such circumstances*. Other vessels of the squadron had cases of enteric fever subsequent to the visit that was made to that port.

There were two cases of primary fever in the Surprise, both being of considerable severity. One, of a distinctly remittent type, followed exposure to marsh miasm, when shooting on an island in the Bay of Tunis. The other case was placed on the sick-list at Malta.

There were forty-four cases of primary fever in the Victoria, twenty-four of which are returned as of the continued type, and twenty as febricula. With reference to these cases the Surgeon* makes the following observations:—

"Of the former several were of a simple uncomplicated character, assuming no specific type, merely an uninterrupted continuation for many days of febrile phenomena. Many of the cases might have been included under the heading of febricula, but that the vascular and nervous excitement extended to periods beyond the more limited duration of that form of fever. A few of our cases presented well-marked typhoid symptoms, characterised by the adynamic quality of the fever, associated also with tenderness and distinct gurgling in the

* Surgeon James G. T. Forbes.

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the right iliac fossa, and, in a still smaller proportion, rose-spots occurred. Two of these cases terminated fatally in hospital; both were young officers recently arrived on the station, of steady, regular habits, but neither very robust. These were the only two decided cases of enteric fever that occurred while we were in Malta; but five others were treated during our summer cruise on the coasts of Spain and Italy, one of which proved very severe, and accompanied by great nervous depression. The patient, a young marine, eventually recovered; he, as well as the other four, had abdominal tenderness and gurgling, but of the five cases three only presented the rose-rash. Two of these latter cases, as well as the two officers who died in hospital, had pulmonary congestion, and in all, the symptoms advanced insidiously. The source of the poison it is impossible to conjecture. The officers were in the habit of visiting the shore, but by no means frequently, as both were remarkably steady young men; they were not seized at the same time, an interval of three months elapsing between their deaths. The infecting locality of the others seems to have been Barcelona, as the first of the cases was entered on the sick-list on the 17th of July and the last on the 5th of August, the date of our arrival at that port being the 12th, and at Rosas Bay the 28th. Neither of the affected belonged to the same mess nor to the same boat; and, after their seizure, being confined within the sick-bay, they had no means of communicating with the healthy.

"Doubtless all these typhoid cases were separately infected on shore. No possible suspicion can be directed to causes on board, as the condition of the ship, with regard to ventilation and cleanliness, is perfect. The bilges are easily got at, and are at all times kept scrupulously clean, and the whole internal economy of the ship is of such a character as to make her as perfect, in a hygienic point of view, as it is possible to have a sea-going ship, constructed and adapted as they are for war purposes.

"Some of the cases treated during the season exhibited a tendency to remit, but none of them sufficiently so to satisfy me that they ought to be returned under the head of Remittent.

"The majority of the cases returned as febricula were simply ephemeral cases, commencing with rigors or chilliness, then high vascular excitement, attended by severe headache, flushed countenance, injected eye, hot burning skin, coated white tongue, great thirst, full throbbing pulse, scanty secretions, and general aching of the limbs and loins; these symptoms subsiding abruptly, generally in profuse perspiration, at the end of twenty-four, forty-eight, or seventy-two hours. In the majority of those affected, the patients convalesced rapidly; but some few proved tedious, being followed by an asthenic state. Many of these cases were clearly traceable to sun exposure, and others to excesses when on leave.

A difficulty I have experienced since my arrival on the station is, the satisfactorily assigning to febroid affections their position in the nosological arrangement. A case presents itself, apparently typical of one of the well-defined forms of fever, when, after a few days, it completely changes its character, leaving the medical attendant puzzled in his attempt at classification. This difficulty is especially troublesome

troublesome in those cases associated with an asthenic state of the system, which gradually merge into cachexia, a condition from which the patient rarely recovers without change of climate; but immediately after his return to England robust health is at once restored; and many such cases I have been astonished to see return to the station, in a very short time after being invalided, quite altered in appearance, having in the interval regained flesh and strength, and improved complexions. The sequelæ of these febrile attacks often prove very troublesome; many of the patients suffer from rheumatism, which usually proves obstinate; and several cases, I have reason to believe, had epileptic fits, induced by no other cause." Mediterranean Station.

The case of primary fever in the Wanderer and those in the Weser were of an ephemeral nature.

Small-pox.—There were six cases of small-pox in the Orlando, all of a very mild character, each person affected having well-marked cicatrices of previous vaccination. The first case was contracted at Malta, where the disease was prevalent on shore.

In the Phœbe there was a solitary case of modified small-pox. The disease appears to have been contracted at Naples, where it was epidemic. The patient, a non-commissioned officer of Marines, had a well-marked vaccine cicatrix on each arm.

Scarlatina.—A single case of scarlatina occurred in the Revenge, at Naples, in the person of a young officer. The case was not one of great severity, although the eruption was well marked and copious, and the throat affection was present. The same remarks apply to single cases of this form of eruptive fever that appeared in the Royal Oak and the Victoria, at Malta. In none of these cases was the origin of the disease traced.

Measles.—This form of eruptive fever was very prevalent in Malta, in the early spring, and a mild case of it occurred in the Hibernia, in the person of a boy. In the Pelican, at the same place, a case of spurious measles occurred in the month of November.

Diseases of the Brain and Nervous System.—There was a considerable decrease in all the ratios coming under this head, as compared with the preceding year. Ninety-four cases altogether were entered on the sick-list, of which twenty-three

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three were invalided, and two had a fatal termination. Nearly one-half of those invalided suffered from epilepsy.

A fatal case of disease of the brain occurred in the Victoria, in the person of a young seaman. He was rather deaf, and had a peculiar, stupid expression of countenance. He first presented himself on the 31st of May, complaining of a purulent discharge from the right ear, which, he stated, had existed for some weeks, but gave no pain. On the 3rd of June he was affected with vomiting without any obvious cause, and he complained of vertigo, the pulse at the same time becoming slightly accelerated. Subsequent to these symptoms setting in, he was a good deal troubled with headache. On the 11th, the vomiting having just ceased, the tongue was observed to deviate on protrusion, and the gait of the patient was very unsteady. The same night there was great delirium. From this condition he appeared to improve, and a remission of the headache having taken place towards the end of the month, quinine in small doses was administered to him, and for a short time with apparent benefit, but the return of the headache necessitated its being stopped, and a blister was applied to the nape of the neck. Towards the end of July disease was evidently making rapid progress; the headache became constant, and was associated with vertigo and irritability of stomach, the gait was more unsteady, the manner confused, and the expression of the countenance indicative of suffering. On the 27th he gradually became comatose, and died that evening. It was not deemed advisable to make a post-mortem examination of the body as the ship was entering the Bay of Rosas at the time; and the inhabitants being suspicious of all vessels, on account of cholera being epidemic in the Mediterranean, it was necessary to inter the body without delay.

A fatal case of epilepsy occurred in the Orlando. The subject of the disease was an officer, of somewhat dissipated habits, and who had undergone much mental anxiety from domestic causes. He was attacked with epileptiform convulsions, and a succession of fits of gradually increasing severity induced delirium and coma, in which state he died.

There were twenty-two cases of delirium tremens under treatment in the squadron during the year; of these, two cases occurred in the persons of subordinate officers; four in petty officers; four in able seamen; one in an ordinary seaman;

seaman; five in stokers; one in a mess-servant; one in a bandsman, and four in marines.

Diseases of the Organs of Respiration.—There was an increase in the ratio of cases coming under this head, as compared with the preceding year, equal to 54·7 per 1,000; this was, however, entirely referable to the greater prevalence of the milder forms of disease, such as influenza and catarrh, from which there was no loss to the service, either by invaliding or death. The ratios of invaliding and mortality were almost precisely the same as in 1864.

Diseases of the Heart and Bloodvessels.—There was a slight decrease in the ratios of cases and mortality under this head, as compared with the preceding year, but the ratio of invaliding was fractionally increased.

A sudden death from heart-disease occurred in the person of an officer of the Racer. He had long suffered from the rational symptoms of disease of the heart, and physical examination showed incompetency of the mitral valves. He had been in his usual health on the evening of his death, and had retired to his cabin for the night. Some time afterwards he was heard to be groaning, and on being seen was found to be quite insensible and gasping for breath, and in a few seconds he expired. The disease was the result of an attack of acute rheumatism from which he suffered some years previously, while serving in the Mediterranean.

A death from rupture of the left auricle of the heart occurred in the person of a marine of the Meeanee. On the morning of his death he was sitting on the gun-tackle in his mess on the lower deck, in the act of eating biscuit, while at the same time he was conversing in a cheerful manner with those around him; his head was observed suddenly to fall back, and when spoken to he did not answer; he was carried into the sick bay with a blanched countenance, pale lips, and fixed and dilated pupils; he made one convulsive effort at inspiration and appeared to die immediately. Several pieces of partially masticated biscuit were removed from his mouth; and as it was thought possible that portions might have got into the upper part of the larynx, obstructing respiration, laryngotomy was immediately performed, and a canula introduced; respiration and circulation had, however, entirely ceased; artificial efforts to induce respiration were at once resorted to and persevered in, but without avail. During his

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period of service on board the Meeanee, this man appears to have seldom been placed on the sick-list, but he not unfrequently alluded to a pain he felt in his chest; this pain he spoke of on the evening before his death, and a few hours before he died, he said he thought he must go to the surgeon about it; this, however, he did not do. The following report of the post-mortem examination of the body is by the Surgeon of the ship:—

"Body well formed and muscular. On opening the cavity of the chest no effusion of blood or serum was found, and the pleuræ were normal. The left lung was completely collapsed, and pressing against the posterior wall of the chest. On puncturing the pericardium there escaped quite ten ounces of coloured dark serum, and within the cavity was found a compact clot of blood at least equal in size to the heart itself. The heart was removed entire within the pericardium, the bloodvessels being cut as high up as possible external to it. The organ itself was natural in size, but on its surface there was a considerable deposit of fat. Both the right auricle and right ventricle were natural in appearance and thickness. The walls of the left ventricle, however, were thin, and the muscular fibre paler and and softer than natural. The left auricle throughout its extent was thin, and its external wall had given way between the openings of the pulmonary veins. The liver was pressing upwards the right lung, and seemed enlarged. It was cut into through the thorax, and its texture appeared softer than natural. Sufficient to account for sudden death having been found, neither the head nor abdomen was opened."

Diseases of the Alimentary Canal.—There was an increase in the various ratios coming under this head, as compared with the preceding year, which was entirely referable to the greater prevalence of cases of diarrhœa in the squadron, and to the occurrence of a small number of cases of cholera, the majority of which proved fatal. This malignant disease prevailed epidemically in Egypt in the early part of June, and was conveyed to Malta and several ports in the Mediterranean by the various passenger vessels from Alexandria, many of which were crowded with Mahomedan pilgrims returning from Mecca. At Malta the disease committed great ravages, both amongst the native population and in the garrison, and there can be little doubt that the comparative immunity enjoyed by the naval force on the station was entirely attributable to the wise precaution of keeping the vessels of the squadron as much as possible away from infected localities. Under any other circumstances it would certainly appear remarkable, that, in a force of upwards of 7,000 men, on a station on which cholera was so extensively prevalent, only ten cases should have occurred. It will be seen

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seen, however, that in every instance, even in this small number of cases, the occurrence of the disease was attributable to direct communication with an infected port.

A fatal case of enteritis of a somewhat singular character occurred in the person of a marine of the Pelican. He was a man of intemperate habits, and a few days previous to the attack had been on shore on leave, where it is supposed he indulged to excess. He had previously been on the sick-list on several occasions, suffering from vomiting and frequent watery purging, which generally were but little amenable to treatment. On the last occasion of his being entered on the sick-list there was a considerable amount of febrile action with the diarrhœa, and the vomiting and purging proved most obstinate. Occasionally they were subdued for a short time, but they constantly recurred with increased violence, and so great was the irritability of the stomach, that although food and medicines were readily taken they were invariably soon rejected.* The matters ejected from the stomach were generally watery and mucus-like, sometimes mixed with bile. The evacuations from the bowels were watery, generally of a pale colour, but sometimes darker and of a greenish hue. No blood nor lymph was ever seen mixed with the stools. The other functions of the body were natural, with the exception of slight irregularity of the pulse.

After the first three days of the attack the febrile symptoms subsided; the skin was cool, the pulse of fair force, and beating from eighty to ninety; the tongue, which never had been much coated, remained clean. There never were any cramps of the limbs, and his only complaints were of excessive thirst, and sometimes of pain about the region of the transverse colon, although there was no tenderness on pressure over the cæcum. He continued to become gradually weaker without any alteration in the symptoms till early in the morning of his death, when, after having suffered a severe return of vomiting and purging, he began gradually to sink and to lose the power of swallowing, and, although stimulants were used both internally and externally, he sunk exhausted. The foregoing history of the case is abridged from the report of the Surgeon* of the ship, who also gives the following statement of the post-mortem examination of the body:—

"The large and small intestines were found to be the chief seats of pathological change. The bowels had generally a shrunken appearance;

* Dr. J. C. Messer.

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ance; their serous surface was pale with congested patches here and there. The colon was found remarkably altered in size, being shrunk up throughout its entire length except a few inches about the sigmoid flexure, to about two fingers' breadth. The caput cæcum was not much larger than a hen's egg, while the coats of the bowel felt hard and gristly. The jejunum and ileum were not so much altered in size, but presented externally many deep patches of congestion, and near those spots the bowel had undergone intussusception. At twelve different points this had occurred, involving portions of bowel from three to twelve inches in length, but no adhesion of lymph had occurred in any of them. The internal surface of the bowel presented many large discoloured patches of congestion, varying in depth of colour to the deepest purple, but no ulcers nor cicatrices were found on any part. At the contracted parts of the colon the mucous membrane was drawn up into longitudinal ridges. The intestines contained in their upper parts some dark glutinous matter, coloured apparently by effused blood; in the lower part there was scanty thin feculent matter.

The internal surface of the stomach was congested, especially near the pyloric orifice, on the larger curvature, but no ulcer or other alteration was present.

The vessels of the mesentery were much congested, and the glands somewhat enlarged. The other organs of the body were generally healthy, although pale and anæmic, excepting perhaps the kidneys, which were larger and paler than usual, and with the capsules adherent."

Cholera.—There were ten cases of cholera in the squadron, seven of which proved fatal. The vessels in which this disease appeared were the Assurance, the Chanticleer, the Cockatrice, the Cossack, and the Hibernia.

There were four cases of cholera in the Assurance, of which three proved fatal. The circumstances under which the disease appeared on board are thus given by the medical officer*:—

"The Assurance left Malta on the 17th of July, and arrived at Sulina, in the Danube, on the 9th of August, having been detained thirteen days in quarantine off Chanak-Kalessi, in the Dardanelles, in which town several cases of cholera had occurred, and with the exception of one day at Kustendji, the 8th of August, having had no communication with any port. Finding, on arrival at Sulina, that there was a severe outbreak of Asiatic cholera in the town, and that the disease had also appeared among the merchant ships in the river, I suggested that the ship should be removed for a time out to sea, or to some other anchorage, and the Danube being in other respects unhealthy from the extensive marshes on both its banks, that while the ship remained in the river an extra allowance of cocoa should be daily

* Dr. Maxwell Rogers.

daily issued to the crew, to be prepared ready to be taken the first thing in the morning, before commencing work. Every possible arrangement was made towards the prevention of the disease being communicated to the ship's company; leave on shore was for the time stopped, and a portion of the after-part of the upper deck was screened off for the immediate reception of any case of cholera, should such occur. On the 12th of August, the ship was removed to Serpent's Island, twenty-four miles from the nearest land, the crew were every evening landed for recreation, while the ship cruised about during the day. On the 14th of August a marine was suddenly seized in the night with marked symptoms of Asiatic cholera, and on the following day a marine who had been in attendance on him was also attacked, followed on the 16th by a stoker, who had been for some time before on the list with diarrhœa, but for some days had been free from that complaint. On the 26th of August an ordinary seaman was attacked with the disease.

"On the disease first appearing on board, those attacked were immediately separated from the rest of the crew. Solution of chloride of zinc was sprinkled about, and some of it left in the closet, and vessels used for the reception of vomited matters, &c. After death, the bedding, &c., was thrown overboard.

"In a general way the treatment adopted consisted in the application of sinapisms over the stomach, jars of hot water to the feet, and rubbing the extremities with hot turpentine; while a draught composed of chloric æther, aromatic spirits of ammonia, and tincture of opium, was given every half hour, and brandy at intervals, according to circumstances."

The first fatal case in this outbreak was taken ill at 1 a.m. on the morning of the 14th of August, and the attack did not prove fatal until 4.45 p.m. of the 19th. The immediate cause of death appears to have been uræmic poisoning. The choleraic symptoms had quite subsided, and he had considerably improved, but there was persistent suppression of urine, inducing first, drowsiness, and, finally, coma and convulsions. In the second fatal case the patient, who, as stated above, had previously been under treatment for diarrhœa, appears to have been unable to contend with what otherwise does not seem to have been a very malignant attack of the disease. He was placed on the sick-list on the 12th of August, and died on the afternoon of the 22nd. For a day or two before his death, the stools had become bilious, and he had voided urine. The third fatal case was an example of that malignant form of the disease in which, with but little vomiting, cramps, or purging, the fatal result is evident from the first. In this case the duration of the attack was precisely twelve hours.

There were two cases of cholera in the Chanticleer, both of

 which

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which proved fatal. The disease was contracted at Malta about a fortnight after the arrival of the vessel there. The surgeon* of the ship says :—

"On the 1st of July we arrived at Malta after an absence of eight months, and found the island in a state of panic regarding the cholera, which had been raging with fatal effect for nearly a month at Alexandria and Cairo. The great communication by steamers with the former port rendered the visitation of the disease most probable; still for all this the inhabitants did not seem to take any precaution to prevent its spreading, should it appear, beyond putting the vessels, which were daily arriving crowded with passengers, into seven days' quarantine. The heat at this time was becoming very trying, and there was a great tendency to diarrhœa, both afloat and ashore. The first case that was reported to the Board of Health was on the 12th of June, although a day or two before that three or four of the wives and children of the soldiers died from what the medical men called cholerine. The disease did not make any very great strides till the end of the month, when it was pretty general over the whole island, and averaging from seventy to eighty cases daily, of which two-thirds at least died. At first it was most virulent among the 100th Regiment who were stationed in Fort St. Elmo, a wretched old barrack created in the time of the Knights of St. John, and situated in a low damp position, with most of the drains of the town passing down to the sea in that direction. They were soon removed and placed under canvas, after which they had scarcely a case.

"Two cases occurred on board this ship, one on the 15th, and the other on the 31st of July. I could not trace any cause for the first, as he had not been on leave for eleven days when seized. The second person attacked, being a very steady man, was allowed to go on shore on the 27th, as the other ships in the harbour were granting special leave, and remained there seven hours. Every precaution was taken, as soon as the disease revealed itself, to isolate these patients from the rest of the ship's company, by removing them at once to the upper deck, and allowing only such persons as were absolutely necessary to attend upon them. The stools were instantly removed, the bed pan rinsed out with solution of chloride of zinc, a little of which was always kept in it, as well as a bucketful at hand, for those nursing them to dip their hands in constantly. After they died, everything in the shape of their bedding and dirty clothes was thrown overboard, and the deck around, and where they had been lying, was scrubbed, sprinkled with the chloride of zinc, and after that whitewashed. In both of these cases there was premonitory diarrhœa, but this fact was only known with reference to the second case, before the fatal attack came on."

Although it is stated that in the first of these two cases the man had not been on leave for eleven days, there seems good reason

* Surgeon M. P. S. Ward.

reason to doubt whether he had not been on shore during that interval. The assistant surgeon* says:—

"Some of the ship's company were on leave every day, but this man's privileges had been stopped since the 2nd. In spite of that, however, he had eluded the vigilance of the ship's police, and had been drinking hard for some days previously, in consequence of which he had been taken on the quarter-deck the day before, and was then under punishment."

There was a single case of what is termed cholerine in the Cockatrice. The disease occurred in the person of a stoker at Galatz, in the month of August. He had been suffering from diarrhœa for some days, when he was suddenly seized with violent cramps in the abdomen. He had also vomiting and purging. The more severe symptoms were with some difficulty subdued, but for some time the diarrhœa was very urgent. Much relief seems to have been derived from the free use of ice, which he was allowed to suck. He was discharged to duty after being thirteen days under treatment.

There were two cases of cholera in the Cossack in the month of June, both of which made good recoveries. The vessel had left Alexandria, where the disease was prevailing, two days before, and the first person attacked was an engineer who had visited Cairo, and had passed on his way through Alexandria. The second case occurred a few days afterwards in the person of a boy who had been on shore at Alexandria for a short time one night.

A case of cholera, which proved fatal, appears in the returns from the Hibernia, but the disease was not treated on board that vessel, the person attacked being at the time resident on shore at Misida, where he was taken ill and died. Both medical officers of the Hibernia had considerable experience of the epidemic as it appeared at Malta, and the following able report is taken from the journal of the surgeon† of the ship:—

"Early in June the intelligence of an epidemic of cholera in Egypt reached the island, and was followed immediately by a rush of refugees from Alexandria, where a large number of the Maltese artificers and labourers obtain their livelihood. On the 14th of June vessels from Alexandria were placed, on their arrival here, in seven days' quarantine. A few days afterwards twelve days' quarantine, and then twenty-one days, were imposed. Steamers crowded with

* Assistant Surgeon R. Whish Brigstocke.
† Surgeon T. R. Pickthorne.

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with passengers were arriving here from Alexandria daily during the last fortnight in June, and some of these vessels had hadjis on board, who were returning from Mecca to Morocco. Cases of cholera occurred in these steamers on their passage from Alexandria, and also among the passengers landed in the lazaretto here. The lazaretto is situated on the island of Fort Manoel, which is almost in the centre of the western or quarantine harbour. This harbour is bounded by Valletta, Floriana, Pieta, and Misida on the south-east, south, and south-west, and by Sleima on the north-west. All these places are thickly populated, and Valletta is not more than a quarter of a mile from the lazaretto. On the same island are situated barracks for a regiment, and quarters for married soldiers.

"Supposing the existence of an infected atmosphere in and about this lazaretto, the light sea breeze would, in the summer, set this atmosphere in motion, and carry it towards the four places I have above mentioned as lying between the south-east and south-west of the lazaretto. It is worthy of record that in the epidemic of cholera in 1865, the first cases of disease outside the lazaretto were reported in the plague hospital on Fort Manoel. In that hospital married men of the Royal Artillery were living, and on the 22nd of June a case of cholera was reported among them by the medical officer in charge. Very shortly afterwards the disease broke out at Floriana, Misida, Pieta, and Valletta, but did not extend to other towns or villages for some time. Gradually, however, it spread itself all over the island, and to the neighbouring island of Gozo, and it was not until the 17th of November that Malta was declared free from cholera.

"While all other places in, or bordering on, the Mediterranean, suffered from cholera in 1865, Greece and Sicily were entirely free from the disease; and, on inquiring into the cause of this immunity, the first fact that meets the inquirer is, that in both those countries a rigorous quarantine, amounting almost to exclusion, was enforced on all ships coming from infected ports. To this, in both countries, was attributed their freedom from cholera, and it would be difficult to call in question the correctness of such a view. An efficient quarantine kept cholera out of Greece and Sicily, whereas an inefficient one hardly even delayed the breaking out of the disease in Malta, and subjected the inhabitants, travellers, and others, to all the inconveniences, losses, and miseries of the most completely organized and efficient system of quarantine. It is, in my opinion, beyond a doubt that cholera was imported into this island in June 1865 from Alexandria, and I am also of opinion that the attempt to keep out the disease by quarantine regulations proved ineffectual on account of their imperfect character.

"Although, as I have before stated, the first case of cholera was reported on the 22nd of June, it was not until the 10th of July that the government, 'in consequence of the occurrence of sporadic cases of cholera in the island, issued foul bills of health to ships leaving it.' The fleet had left on the 1st of July for the northern shores of the Mediterranean.

"The disease had existed for more than a month in the island, and had shown itself of a most virulent character, before, in the extensive practice

practice that my duties in the dockyard and victualling yard bring me, a case of it fell under my notice.

"On the 3rd of August I saw the first case, and on the same day I was called to a second case. The first patient lived in Senglea, a town on the south side of Dockyard Creek, and was the wife of a serjeant of marines of H.M.S. Wanderer. She was attended throughout her illness by the assistant-surgeon of the Hibernia, who found her in a state of collapse, with all the characteristic symptoms, and she only survived for twelve hours. The disease in the policeman, who was the second patient, was not so virulent. He was seen at an earlier stage of the disease, and made a good recovery.

"From the 3rd of August to about the middle of September I had daily opportunities of seeing and treating fresh cases of disease in the towns of Senglea and Vittoriosa, that border Dockyard Creek.

"The only case of cholera in the Nosological Table for the year occurred at Misida, where a supernumerary sailmaker was living. Very early in the morning of the 22nd of August symptoms of the disease appeared, but it was 10 a.m. before a messenger reached the Hibernia with intelligence of his illness. The assistant-surgeon proceeded at once to the patient's house, and found him in a state of collapse, with all the worst features of the disease. External frictions and stimulating applications were persevered in, and stimulants and an occasional opiate administered internally, but without the least good effect, and the patient expired about 3·30 p.m.

"In the presence of an epidemic of so virulent a nature it became my duty to impress upon the executive all the possible means of preventing the disease from establishing itself in the Hibernia, and also of keeping the ship and crew in such a condition as to diminish the susceptibility of the latter to the lowest point. During Michaelmas quarter the Hibernia was by no means crowded; the daily number victualled for that period was 200. Leave is very freely given in this ship. The native portion of the crew is divided into two watches, and one watch has leave to sleep on shore every night. The marines and supernumeraries have also a liberal amount of leave. It was not thought expedient to interfere with this leave, further than to explain to all the crew that they were to avoid infected places and houses, and they were informed that if they did not attend to this recommendation their leave would be stopped. In certain instances death from the epidemic occurred in the families of the native portion of the crew, whereupon a quarantine of three weeks was put in force, and instructions were given for the destruction of all clothing and bedding belonging to the deceased.

"The ship was kept dry and well ventilated, the bumboat was not allowed to bring unripe fruit, or other improper or indigestible articles of food, and all the crew were instructed to apply at the sick berth immediately any disorder of the stomach and bowels appeared. This they did very readily, but such disorders were not numerous. Notwithstanding the panic that existed on shore, the crew of the Hibernia were cheerful, and I am inclined to explain the rather surprising immunity from cholera in this ship (when on either side of her, at a distance of less than a hundred yards, the disease was frequent and destructive) by the statement that in the admirable sani-

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tary condition of the ship, and in the good health and spirits of the crew, all predisposing causes of disease were entirely absent. This explanation is borne out by the fact, that although cholera was present in Malta for nearly five months, and the epidemic was a very fatal one, very few indeed of the well-to-do portion of the community fell victims to it. The epidemic, as time went on, did not attach itself to any particular place in the island more than another, but seemed to exhaust itself in one spot, and then break out in another, without any obvious reason, and it extended to every village on the island, passing, apparently, from the towns and villages on the north-western side to those on the south-eastern, where the latest cases occurred.

"Bad drainage is the rule of the island, and in all the towns and villages the air is much polluted by sewage gases, but the towns of Vittoriosa and Cospicua are particularly offensive from that cause, yet I cannot say that they were more severely visited by the pestilence than the other towns.

"The town of Vittoriosa is the only locality where I saw many cases of the epidemic. My own residence is there, and a great number of the artificers and labourers of the yards live there. It is the oldest walled town on the island, badly built and drained, and overcrowded with inhabitants; while its atmosphere is further polluted by the emanations from Dockyard Creek. In former journals I expressed my fears of the mortality that would attend a serious epidemic about the shores of Dockyard Creek, but I can hardly say they were justified by the epidemic of 1865.

"The epidemic stuck to Vittoriosa about six weeks, but I have not reliable data as to the number either of cases or deaths. In witnessing it there, the fact soon became fatally manifest that, without the destruction of the clothes and bedding of cholera patients, and the thorough cleansing away of the intestinal discharges, the houses in which the patients resided became infected to such an extent as to be unsafe places of abode. At an early date I pointed out this by letter through the admiral-superintendent to the governor, who gave orders to the police to attend to the purification of the houses pointed out as infected. In some houses as many as six of the residents perished, and there were two or three houses in one street (Strada Scolastica) where the disease cropped up again long after it had disappeared from all other parts of the town. These houses were old, full of foul smells, and inhabited by the poorest class. And this leads me to repeat the remark that the ravages of the disease were, with scarcely an exception, confined to the badly fed and poorer inhabitants. The panic among them was great, and, led away by ignorant advisers, their hitherto spare diet was still more reduced by the abandonment of the use of fruits and vegetables, so that they were insufficiently nourished, and, in consequence, their vital force, and their ability to resist disease, were much diminished. The government, and the benevolence of individuals, here stepped in, and must have saved the lives of many by a daily supply of excellent soup, which was carried through the streets, and supplied to the poor in their houses.

"The epidemic appeared on the island on the 22nd of June, and the

the largest daily number of attacks happened on the 10th of August. It lingered throughout September, uninfluenced, apparently, by the heavy rains of that month, or, if any influence was exerted by them, it was rather to increase, for a day or two, the number of attacks. After September the disease had almost disappeared from Valletta, and the other large towns that surround the harbours, but up to the middle of November dropping cases occurred in the villages, particularly in those on the south-eastern end of the island, among which the disease eventually expired..

"I am not in a position to say anything of the progress of the disease in the garrison, but in the fleet only one ship in Malta suffered, the Chanticleer, and in her there were two fatal cases. Clean bills of health were issued by the government on the 17th of November, and I have not heard of the occurrence of a case of choleraic disease in the island since that date.

"The population of Malta is about 130,000, and as well as can be gathered from the daily reports issued, the total number of attacks of cholera in the civil population was 2,280, of which 1,440 were fatal; thus giving a mortality of 63 per cent. This shows the virulent character of the epidemic, and, as far as I witnessed it, I found that the premonitory diarrhœa was frequently, particularly in women and children, of very short duration, and unnoticed in many cases until collapse came on. The disease presented no essential difference from the descriptions of it given by the best authorities in India and by the writers on former epidemics. In my own limited field of observation I found that the cramps that generally accompany the disease were neither severe nor always present, but in their place there existed a restless tossing about in bed, very well marked in children, and always present in the fatal cases.

"In my experience the prophylactic treatment was the only really satisfactory dealing with this epidemic. The premonitory diarrhœa, when seen at its earliest stage, proved very manageable under the administration of opiates, alkalies and stimulants, assisted by the application of sinapisms and turpentine stupes. In only one instance in my practice did a patient, who came under treatment at the beginning of the premonitory diarrhœa, fall into the stage of collapse. He eventually recovered, but his wife, who had nursed him, was seized, without any premonitory symptoms, with collapse, and she expired in eight hours.

"In the management of patients in the stage of collapse, all my efforts were directed to the preservation of animal heat and to stimulating the heart's action. I surrounded the patient's body and limbs with hot-water bottles, and applied friction steadily. Sinapisms and epithems were also used, and a frequent and, I think, a very useful remedy was the application of chloroform liniment to the scrobiculus cordis. An attempt was always made to check the rice water discharges by opiates or chlorodyne, but these medicines were not continued; stimulants, generally composed of ammonia, chloroform, ether and the essential oils, were given in small doses frequently repeated, and the patient allowed to suck ice or to drink iced water or iced brandy and water. Success, in my opinion, very much

 depends

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depends upon the energy and perseverance with which the treatment is carried out, and I had frequent occasions to regret, in the absence of the assistant surgeon or myself, the effects of despondency among the Maltese, who, abandoning the patients to their spiritual advisers, neglected to use the remedies that might have preserved their lives."

The assistant surgeon* of the Hibernia also furnishes the following interesting report of the epidemic:—

"In the early part of the month of July cholera appeared on the island. In May and June it was raging at Alexandria, and there is very little doubt that it was imported from that place, the communication being constant and direct. In the latter part of June a large number of Maltese labourers returned to the island from Alexandria, where they were earning their living, and which they left on account of the epidemic. Besides this influx of persons from an infected locality, steamers crowded with pilgrims from the east were at the same time constantly calling at this port '*en route*' for Tripoli and Algiers. We had no means of investigating the circumstances connected with the breaking out of the disease in Malta, and had no information as to the details of the first cases, but these latter occurred at the lazaretto among the people detained there. The troops quartered at Fort Manoel were next attacked, being infected, it appears, through some persons employed to wash the clothes of the sick, and by means of a drain communicating between the quarantine establishment and the adjacent barracks. The disease appeared then among the troops at Florian, and soon became general among the inhabitants of Valetta. In the last week of July cases occurred in the towns of Vittoriosa and Isola, which surround Dockyard Creek, and early in August there was cholera in every casal in the island.

"Opportunities were afforded me of seeing the disease when it extended to the two last-named towns, where most of the dockyard artificers, and families of men belonging to the fleet, reside. The latter, when attacked, applied to the ship for medical assistance, and I accompanied the surgeon in his attendance on the dockyard people who suffered.

"Not a single case occurred on board the Hibernia, but one man died at his home in the village of Misida, whose name was on the books of the ship. At 4 a.m. of the morning of the 22nd of August he was seized with cramps, vomiting and purging, but assistance was not sent for until 10 a.m. I saw him shortly afterwards, and he then presented the worst features of the disease. His face was dusky, with livid rings round the eyes, which were sunken. The surface of the body was cold, and his hands blanched and wrinkled. The pulse at the wrist could hardly be felt. He was perfectly conscious, however, and spoke freely of his complaints, and his chances of recovery. He had been passing rice-water stools all the morning, and had vomiting of the same character. Cramps were violent and

* Assistant Surgeon Edward J. Butler.

and the thirst was excessive. No urine had been passed since morning. The cholera drops, as recommenced by the army medical authorities were given at intervals with Liquor opii sedativus. Brandy was given in his drink. The vomiting and purging ceased and the cramps became less frequent and severe. Sinapisms and hot bottles were applied to his body and extremities, but local applications soon became useless on account of the restless way in which the patient rolled and tossed about the bed. Collapse increased, the pulse never rose, and the surface became colder. He died at 3 p.m., having been unconscious for an hour previously. This of course was a typical case of Asiatic cholera. About the invasion in this instance there was some discrepancy. The man's statement to me was that he was quite well until attacked as above; but from the accounts of his wife and friends, it appeared he had diarrhœa and was unwell the day before. He was a muscular, well-conditioned man, and I believe was temperate in habits; but his house was in a close courtyard, badly ventilated, and close to the top of Pieta Creek. There were several cases in the neighbourhood.

"The Hibernia was singularly free from sickness throughout, for a great number of the ship's company being Maltese, whose leave could not well be interfered with, there was free and constant communication with infected districts. When it became known, however, that the disease appeared in the house or family of any of the men, he was not allowed to return to the ship for a fortuight. Fruit was not permitted to be sold by the bumboat-man, and every precaution calculated to maintain the health of the ship's company was taken. A few cases of diarrhœa occurred, but they were trifling,—and besides the cases on the list of bowel affection, there were others under treatment and observation which it was not necessary to enter, for the men were directed to apply for medical assistance upon feeling in the least unwell, and they did so, frequently on trifling grounds. Our immunity from the epidemic I have no doubt may be in some measure be attributed to the latter precaution, for in many instances on shore a slight diarrhœa neglected led the way to fatal results, and the least complaint made by any of our men was immediately attended to.

"The epidemic reached its height early in August, having attained the maximum of seventy-three cases on the 9th, and it did not finally disappear until the early part of November.

The features of the disease, as I saw them, presented nothing peculiar for remark. All the symptoms ascribed to Asiatic cholera were well marked, though they were not combined in all cases. In some there was very little vomiting or purging; in others, these symptoms were excessive and most distressing, and accompanied by great thirst; but the extent of these seemed to bear no ratio to the fatality of an attack. Cramps were not severe, but in every case the restless tossing about was most marked, rendering local applications almost useless. The choleraic face and skin were always observed, and there was total suppression of urine in every case.

"As a rule, premonitory diarrhœa ushered in an attack, but in many cases it was so slight as to be overlooked by the patient, and

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neglected, and in many instances the stage of collapse had come on when advice was sought. This latter stage generally lasted from eight to eighteen hours.

"During the whole period of the epidemic, diarrhœa was very prevalent, few persons having escaped an attack more or less severe, and it may be probable that the choleraic poison influenced every one, but worked its fatal effects only on those favourably disposed to it, bringing on collapse in persons of low vital powers. With few exceptions, the mortality was confined to the badly fed, badly housed population; and in the cases which occurred among persons of a better class, there may have been a pre-disposition to the disease arising from constitutional causes, or such pre-disposition may have been induced by a system of starvation and abstinence adopted through fear.

"While the essential nature of the poison is a mystery, I do not think it is too much to say, that it is capable of inducing diarrhœa, with or without cramps in one individual, and fatal collapse in another, varying in its effects according to the constitution of the person exposed to it. Although the disease mostly confined itself to localities where it was multiplied by discharges, &c. which were not, or could not be effectually removed, yet isolated cases occurred, which could hardly be attributed to immediate infection, but seemed to be the result of the diffusion of the poison in the atmosphere. In the Royal Naval Hospital, a man who had been a patient there for some time, and who was in an advanced stage of phthisis, died of cholera in the month of August, though communication from without was very limited and indirect.

"Judging from this and similar cases, it may be inferred that the choleraic poison once imported by men and ships, besides being eminently infectious through discharges and emanations from the sick, is capable of being transmitted by the atmosphere, and of producing fatal effects at considerable distances, independent of any other means of communication. This fact, of course, is not a new one; but I mention it as it bears on the subject of quarantine, and especially on the quarantine establishment in Malta.

"The latter is situated almost in a central place, having the populous towns of Valetta, Floriana, and Pieta on one side, and Sliema on the other, with a large barracks close by; the distances between the Lazaretto and these places varying from a quarter of a mile to a mile. In this place were crowded all the people who came from Alexandria after the middle of June, and it would be strange indeed if the disease, with its well-known infectious properties, thus introduced into the midst of a thickly populated district, should not spread all over the island. As a matter of course it did so; and under the circumstances the details subsequently observed by the authorities in enforcing a strict quarantine were ridiculous in the extreme, and added to the absurdity of the whole system as regards the Maltese Lazaretto. All the minor rules of quarantine were rigidly carried out by the police after the disease was well settled in the island; their strictures were absurd, but would have been very praiseworthy and effectual if the more important

portant questions of quarantine had not been neglected; in fact, the Lazaretto at Malta can hardly be looked upon as a quarantine station at all, but rather as a favourable place to collect persons from infected quarters, for the purpose of spreading a disease among the rest of the community. It should be placed at some of the distant parts of the island where there is good anchorage, where a rigid system of quarantine might be effectual, and where, at all events, the inhabitants of the large towns would have the advantage of distance in resisting the invasion of a pestilence. The intentions of the police authorities in checking the spread of the disease from house to house were good, but they were not always carried out.

"Laudable efforts were made by the governor and by private individuals to relieve the poor, and many others who were thrown out of employment through the slackness of trade on the island. Soup of a very good quality was served out to those who had no means of subsistence, and dispensaries were established where medicines could be had gratis.

"As regards the treatment of cholera when it assumes its worst form, I can say very little. Of the cases I saw, a few only recovered where the stools became rice-watery, and one only when the symptoms of collapse were well marked. All the approved means were used to support the sinking powers. Chlorodyne, brandy, and most of the stimulants in the Pharmacopœia given, and their effects watched, and external applications of the same nature were always assiduously adopted, but with no good results. This treatment certainly seemed to check the vomiting and purging, but did not affect the nervous system sufficiently to bring about restoration of the suspended functions. I can say nothing of the treatment by ice. Its adoption was not practicable in most of the cases I saw.

"I have no doubt of the efficacy of medicines and remedial agents in the first stage of the disease—in the stage of choleraic diarrhœa; but in the epidemic in question this stage was so mild, and of such short duration, as not to attract much notice till collapse came on, when remedies were of very little use. Although some think that choleraic diarrhœa is not a stage of cholera at all, yet an attack of diarrhœa during an epidemic of cholera is a suspicious circumstance, and should not be neglected; and though I think that the poison is capable of producing milder effects in some than in others, according to their constitutional powers of resistance, I should be sorry to overlook those milder effects, lest their continuance should so far debilitate as to predispose a person to a more severe attack. Treatment in the stage of collapse can, I think, only be successful when it is directed to the nervous system. Giving physic with a view of restoring suspended secretions in organs whose functions are arrested as a consequence of nervous prostration is, I fancy, useless, especially seeing that most powerful medicines exercise so little of their usual therapeutic effects in these cases.

"My experience of the disease is not sufficiently large to enable me to enter fully into the subject; but I have seen enough of it to be convinced that much may be done by precautionary measures, and very little by treatment."

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In Table IV. a fatal case of cholera appears in connection with the Magicienne. This occurred in Malta Hospital, in the person of a seaman of that ship, who was admitted on the 11th of August with advanced phthisis, and died on the 31st of the same month, about twenty hours after being attacked with cholera. The Deputy Inspector General of Malta Hospital, in alluding to this case, makes the following incidental observations on the epidemic that was prevailing in Malta at the time:—

"In drawing up the military reports, great attention has, I believe, been paid to the matter of diagnosis; but I think it not improbable that many cases of severe diarrhœa have been classed as cholera by the Maltese practitioners. Among the natives, the death-rate has been considerably lower than among the troops, and it has been remarked that the mortality has been greater on Fridays, Saturdays, and Sundays. An attempt has been made to account for this, by their indulging in fish diet, sour wine, and fruit almost exclusively on those days. On the first appearance of the disease, a 'Bull' was issued by the Pope, cancelling the Roman Catholic obligation of fasts, since which I believe their diet has improved; but their houses are immensely overcrowded, ill-ventilated, and badly drained; pigs, goats, mules, poultry, and human beings frequently occupy the same room, and the supply of water is extremely bad. . . . . I think there can be little doubt that the disease is eminently infectious."

The following interesting facts with reference to the epidemic are copied from an official document* published by the Superintendent of Police of Malta.

"FACTS ESTABLISHED AT MALTA.

"On the 31st of May, the British steamer Ephesus arrived here in five days from Alexandria, with 235 hadjis, or pilgrims, in pratique, of which sixty-one were landed on the steamer's departure for Tunis the next day. According to the report of the master, three hadjis had died during the passage, and were buried at sea; one from mortification, the second of constipation, and the third through senile exhaustion. There was no medical officer on board.

"Between the 1st and 9th of June, seven steamers arrived from Alexandria with 237 passengers, chiefly hadjis.

"On the 10th of June, the British steamer Olympus arrived here in four days from Alexandria, one of the crew affected with bowel complaint.

"On the 12th of June, three Peninsular and Oriental steamers arrived

* Memorandum on the Cholera of 1865, at the Islands of Malta and Gozo. Police Office, Valetta, 5 May, 1866. H. Zimelli, Superintendent of Police.

arrived in three days from Alexandria, with 268 passengers for England, and 28 for Malta.

"On the 13th of June, the British steamer Alexandria arrived in five days from Alexandria, with six passengers for Malta and three for Liverpool.

"On the morning of the 14th of June, the British steamer Hellenus arrived in five days from Alexandria, with two passengers for Malta and three for Liverpool.

"After the arrival of the above last-mentioned steamer, a telegram was received by Government, stating that cholera existed in Egypt, and all vessels coming from Alexandria were from that instant (14th June) subjected to a quarantine of seven full days from their arrival at Malta.

"The first vessel thus subjected to the established quarantine, was the British steamer Memnon, which arrived at 5 p.m. of the 14th of June, in four days from Alexandria, with twenty-two passengers for Malta, of which eleven were hadjis. The master reported that one hadji had died of bowel complaint during the passage, and had been committed to the deep.

"The second, the British steamer, Cairo, arrived at 6 p.m. of the 14th of June in four days from Alexandria, with forty-seven passengers for Malta, of which thirty-seven were hadjis.

"The third, the Nyanza, Peninsular and Oriental steamer, arrived at 11 p.m. of the 14th of June, with seven passengers for Malta.

"The fourth, the Maria Antoinetta, Ottoman steamer, arrived on the 17th, with one Maltese passenger.

"The fifth, the Assyrian, French steamer, arrived on the 19th, with thirty passengers for Malta.

"The sixth, the Rhone, British steamer, arrived on the 20th at 7.30 a.m., with 147 passengers for Malta. The master reported that a passenger and a fireman had died of cholera during the passage.

"Thus, on the 20th of June, the number of persons in quarantine at the Lazaretto amounted to 288; viz., 254 passengers, and thirty-four others in communication with them.

"On the evening of that day (the 20th of June) the first case of cholera broke out in a building near the Lazaretto (the so-called Plague Hospital), where a detachment of the Royal Artillery and one of the 4th regiment were quartered. The distance between the Plague Hospital and the nearest part of the Lazaretto to which passengers had access is, in a direct line, 662 feet.

"In stating the distance between the Plague Hospital and the Lazaretto, it is not my intention to insinuate that the first case of cholera is to be attributed to the vicinity of the Lazaretto where the Alexandria passengers were lodged, but merely to put on record every circumstance that may tend to assist those who study the important question of how cholera is transmissible.

"The case in question was that of a girl, aged 9 years $\frac{8}{12}$, Amelia M. Tom, daughter of a gunner of the Royal Artillery, attacked at 8 p.m. of the 20th, died at 4.15 a.m. of the 21st.

"The second case happened also at the same Plague Hospital. Grace Monger (Vassallo), a Maltese woman, aged twenty-eight, married

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married to Gunner Monger, of the Royal Artillery, attacked at 8.45 a.m. on the 22nd of June, and died at 1.30 a.m. of the 23rd.

"The third case at the same Plague Hospital, Charlotte Tom, mother to the girl Amelia M. Tom, who had died on the 21st. Charlotte, aged thirty-three years, was attacked at 1 p.m. of the 23rd of June, and died on the midday of the 27th.

"The fourth case at the same Plague Hospital, Gunner Henry Forrester, of the Royal Artillery, aged twenty-nine, attacked on the 28th, and who ultimately recovered.

"The fifth case of cholera broke out during the night of the 27th and 28th of June, at Casal Attard, Giuseppe Borg, who died at 6.30 a.m. of the 29th. The medical gentleman who attended this case reported it as gastro-enteritis and not cholera, actuated, as I have reason to believe, from a desire of resisting the idea of cholera having actually visited the population. The man in question had been employed during the 27th in lime-washing some rooms at the Plague Hospital, where the previous cases had broken out among the Royal Artillery.

"The sixth case, also at the same Plague Hospital, Henry George Marshallsay, aged $6\frac{5}{12}$ years, son to a gunner, attacked at 9 p.m. of the 29th of June, and died at 11.15 a.m. of the 30th.

"The above five military cases were at the time reported by the surgeon of the corps as cholera biliosa.

"On the 30th of June the authorities removed the Artillery detachment from the Plague Hospital to Salvatore Counter Guard, Floriana, and that of the 4th Regiment to Notre Dame and St. Francis Ravelins, Floriana.

"The seventh, eighth, ninth, tenth, and eleventh cases happened on the 1st of July, at Salvatore Counter Guard, Floriana, where the detachment formerly quartered at the Plague Hospital had been sent on the 30th of June. Five women, wives of artillerymen, were attacked that same day, only one of which cases proved fatal the next day.

"The twelfth happened on the 3rd of July at the same Salvatore Counter Guard, Floriana, another woman of the Artillery, who died on the 8th of July.

"The thirteenth case broke out on the same day, Emmanuela Schembri, aged twenty-eight, was attacked in Strada Vescovo, at 4 p.m., and died at midnight, and was reported by Dr. G. Arpa as a case of Asiatic cholera.

"On the 6th of July four military cases were reported; three in the Artillery, and one in the 29th Regiment, stationed at Fort Ricasoli.

"On the 7th of July another military case occurred amongst the Artillery.

"On the 8th another case broke out in Valetta, and one at the Ospizio at Floriana.

"On the 9th two additional military cases in the Artillery. On the 10th, two civil cases in Valetta, and one at Conspicua, and by degrees the disease increased to the maximum of seventy-three attacks, and thirty-two deaths (9th of August), visiting every district and

and casal, and continued to decline among the civil population of Malta until the 11th of November, when it ceased, and among the military until the 13th of November.

"Casal Musta remained free from cholera until the 21st of July, when Vincenzo Gatt (who had emigrated there on the 19th from Misida, at which latter place the epidemic was at the time severe) was attacked, and died the next day. It must be observed that on his arrival at Musta, on the 19th, he laboured under a strong attack of diarrhœa.

"The second case at Musta appeared also the same day.

Facts established at Gozo.

The island of Gozo is situated at a distance of about five miles from Malta, towards the north-west, and has no direct communication with any foreign countries.

"It must be remarked, that during every visitation of cholera, the attack at Gozo was always declared long after the epidemic had taken root at Malta.

"On the last occasion Gozo remained entirely free from cholera until the 21st of July, when Michele Cilia (a seaman, aged 22) arrived at Gozo from Malta, and took up his abode at Casal Xenchia, in a house where his sisters resided. On his arrival at Gozo at 3 p. m., he declared having a severe attack of diarrhœa, and during the night cramps and vomit supervened, but he ultimately recovered.

"On the 24th of July, four cases of cholera were declared at the same Casal Xenchia, two sisters of the said *Michele Cilia, living in* the same house, Catarina Attard, a relative of the Cilia family, and Maria Buttizieg, of the said casal. As regards Catarina Attard, she had constantly visited the house of Michele Cilia during his choleraic attack. Of these four cases two proved fatal.

"On the 25th July, two other attacks appeared at the same Casal Xenchia. Maria Cassar, a neighbour of the Cilias, and Ursola Farrugia, who both frequented daily Michele Cilia's house. Maria Cassar died the next day.

"On the 26th of July, Caterina Saliba was attacked at the same casal. She lived at a short distance from the Cilias, and ultimately recovered.

"From the 27th of July to the 1st of August, eight other cases of cholera were declared at the same Casal Xenchia; and on the 2nd of August three cases appeared at Rabato, and the attacks continued until the 24th of October.

Remarks *with reference to previous like Epidemics at Gozo.*

"As the island of Gozo, owing to its peculiar position, and the circumstance of its having only direct communication with Malta, may be considered exceptional, I think it desirable to state certain notorious facts relative to the cholera of previous years, feeling convinced that the same will prove highly interesting and important.

"During the epidemic of 1837, which had broken out at Malta on the

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the 9th of June, the island of Gozo remained entirely free from cholera until the 5th of July, when Guiseppa Falzon arrived unwell from Malta, at Rabato, of Gozo, for the purpose of living with her mother, Maria Vella. The very evening of her arrival Guiseppa Falzon was attacked with cholera, and died early next morning.

"On the evening of the 6th of July, her mother, Maria Vella, was attacked, and died on the 8th. On the 7th four persons were attacked at Rabato, which four cases proved fatal next day.

"During the epidemic of 1850, whilst cholera had visited Malta, Grazia Lalone arrived at Rabato of Gozo, on the 28th of August, with symptoms of cholera, and took up her abode with her sister Guiseppa Calleja; she was attacked the same day, and died on the 31st of August. On the 30th of August four attacks were declared, and all four proved fatal on the 1st of September.

"During the summer of 1854 cholera visited once more the island of Malta, and again Gozo remained free until Carmela Camenzuli arrived there on the 13th of August, and died on the 16th, of cholera.

"On the 19th two other attacks were declared.

"And finally, in 1856, the attacks commenced on the arrival of Michela Cassar, from Malta, on the 23rd of August, who died the next day of cholera."

The document from which the above extracts are taken is a concise and very valuable contribution to the epidemiology of Asiatic cholera.

Diseases of the Genito-Urinary Organs.—There is an increase in the ratio of all cases of disease coming under this head as compared with the preceding year, equal to 11·9 per 1,000 of mean force. The increase is entirely referable to the greater prevalence of cases of gonorrhœa and of orchitis in the squadron, the ratio of cases of syphilis being almost precisely the same as in 1864.

The vessels having the largest number of cases of venereal disease were the Caledonia, the Gibraltar, the Meeanee, and the Victoria.

There were twenty-nine cases of syphilis and three of gonorrhœa in the Caledonia; some of these were of a secondary nature, the original disease being contracted in England, where, during the short period employed in fitting out the ship, as many cases of syphilitic disease were entered on the sick-list as during the subsequent six months when she was employed in the Mediterranean.

In the Gibraltar there were twenty-four cases of primary syphilis, twelve of secondary syphilis, and twenty-three of gonorrhœa

gonorrhœa. With reference to these cases the surgeon* says:—

"In 1864 sixty-eight cases of syphilis were entered on the sick list, and this year only thirty-six, twenty-four being primary cases, and twelve secondary affections. The number of days' sickness for each case is somewhat larger than for the previous year, but this may be accounted for by the fewer cases sent to hospital this year, the number being two compared with eighteen sent in 1864. This decrease in the number of cases of syphilis is caused by the fewer cases contracted at the Piræus, and this circumstance may be attributed to the course adopted with the authorities there. On inquiry it was ascertained that the laws of the place were quite sufficient for the purpose of preventing diseased individuals from carrying on their pursuits, but they had been allowed to fall into disuse. On the arrival of the Gibraltar at the Piræus in March last, the senior officer, before giving the men leave, accompanied by the consul and the surgeon of the ship, had interviews with the heads of the police and health office, who promised to put the law in force. It was afterwards ascertained that the brothels had been visited, and several diseased women removed to the hospital at Athens. This answered the purpose for a time, but it was soon evident that diseased women were again propagating syphilis. Then every fresh case that occurred was made the subject of a correspondence, on the representation of the senior officer, between the English consul and the authorities of the town. Notwithstanding the absence of any case of syphilis which could be traced to Malta, the place is not so free from gonorrhœa, three cases having been put on the list in March, and three in December. The ports visited by the Gibraltar during the summer cruise were remarkably free from syphilis. At Barcelona, Rosas Bay, Genoa, Spezia, and Leghorn special leave was given, and at Naples general leave, and yet nine cases only occurred. At Corfu, where general leave also was given, two cases occurred. At Barcelona the lower class of prostitutes are under strict surveillance, and so it is at Naples and the other Italian ports. The means adopted for the prevention of the spread of syphilis are evidently very successful at these places."

There were forty-four cases of primary syphilis, nine of secondary syphilis, and twenty-eight of gonorrhœa, in the Meeanee. Of the primary disease forty-two cases were contracted at the Piræus, where, the surgeon says, police regulations were a dead letter while the ship lay there.

In the Victoria there were thirty cases of primary syphilis, thirteen of secondary syphilis, and ten of gonorrhœa. Much of this disease was contracted in England. The surgeon says:—

"Much as the ship's company were on leave, we experienced a very

* Surgeon C. M'Shane.

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very satisfactory exemption from venereal affections while at Malta, where the benefits of legislating for the check of that evil contrasts with the home and other ports where no such system is in operation; and though it must be admitted that in the female the disease-giving sore is occasionally too small to be readily detectable on examination, yet incalculable benefit arises from the better attention to personal cleanliness to be expected where such a system is in operation.

"By referring to the nosological returns of this ship for the period over which the present Journal extends (17th November 1864 to 31st December 1865), it will be seen that about one-fourteenth of the total cases treated were of a venereal character, while in addition were many others entered under rheumatism, and a few other headings, the predisposition to which appeared traceable to former attacks of gonorrhœa or syphilis. Thus, with so large a per-centage of this disease, almost entirely obtained during the few weeks the ship was fitting out in England, I am led to think that, had Malta not been judiciously guarded by a sensible system of legislation, these returns must have presented a vast preponderance of such cases. Unhappily, the evil consequences do not terminate with the primary symptoms. Every-day experience shows too manifestly the little reliance to be placed upon men proceeding abroad, saturated with the pernicious virus, but who appear to have had all traces of the disease eliminated from their systems."

Wounds and Injuries.—One man died from pyæmia, consequent on compound fracture of the bones of the foot, sustained in unreeving a derrick. A man was killed by disease of the brain following a punctured fracture of the skull, caused by a marline-spike falling from aloft. Three men sustained fatal injuries by falling from aloft. One man sustained fatal fracture of the spine by falling from aloft. A man was killed by a blow on the head from the topgallant mast, his skull being fractured; and a man sustained fatal fracture of the skull by falling from his hammock.

Two men were found drowned; one was drowned by the swamping of a boat, and four by falling overboard. The total number of deaths was sixty, being in the ratio of 8·2 per 1,000 of mean force, which is an increase of ·4, as compared with the preceding year. The death-rate, from disease alone, was 6·2 per 1,000, being an increase, as compared with 1864, to the extent of 1·2 per 1,000, and almost altogether attributable to the mortality occasioned by cholera.

Invalided.—Eight persons were invalided for the sequelæ of fevers; twenty-three for diseases of the brain and nervous system, of whom one-half were epileptic; sixty-five for diseases of the respiratory organs, fifty-two being phthisical; twenty-

twenty-seven for diseasesof the heart and blood vessels; nine for diseases of the alimentary canal; two for disease of the liver; twenty-one for diseases of the genito-urinary organs, upwards of two-thirds of whom were labouring under various forms of syphilitic disease; fifty for rheumatism; three for diseases of the bones and joints; ten for diseases of the special senses; eleven for diseases of the skin and cellular tissue; seven for dyspepsia; nine for wounds and injuries of various kinds; and four for hernia; making a total of 249, or in the ratio of 34·3 per 1,000 of mean force, which is a reduction, as compared with the previous year, equal to 2·4 per 1,000.

TABLE, No. 1.

SHOWING the Number of CASES of all DISEASES and INJURIES, and the Number INVALIDED and DEAD, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Continued and Remittent Fever	544	75·1	7	·9	12	1·6
Intermittent Fever	124	17·1	1	·1	—	—
Small Pox	7	·9	—	—	—	—
Measles	2	·2	—	—	—	—
Scarlatina	3	·4	—	—	—	—
Disease of the Brain	5	·6	1	·1	1	·1
Apoplexy	1	·1	—	—	—	—
Epilepsy	20	2·7	11	1·5	1	·1
Paralysis	8	1·1	4	·5	—	—
Insanity	5	·6	5	·6	—	—
Delirium Tremens	22	3·	—	—	—	—
Neuralgia	19	2·6	—	—	—	—
Vertigo	14	1·9	2	·2	—	—
Inflammation of the Lungs and Pleura	94	12·9	8	1·1	7	·9
Phthisis and Hæmoptysis	64	8·8	52	7·1	6	·8
Influenza and Catarrh	1,336	184·5	—	—	—	—
Cynanche	370	51·1	4	·5	—	—
Asthma	3	·4	1	·1	—	—
Disease of the Heart, Functional and Organic	56	7·7	23	3·1	3	·4
Hæmorrhoids	29	4·	—	—	—	—
Varix	8	1·1	3	·4	—	—
Aneurism			1	·1	—	—
Disease of the Stomach and Bowels	3	·4	2	·2	1	·1
Dysentery	13	1·7	1	·1	—	—
Diarrhœa	814	112·4	6	·8	1	·1
Cholera	10	1·3			7	·9
Constipation and Colic	84	11·6	—	—	—	—
Disease of the Liver	4	·5	2	·2	3	·4
Jaundice	55	7·5	—	—	—	—
Splenitis	2	·2	—	—	—	—

TABLE, No. 1.—Showing the Number of Cases of all Diseases, &c.—*continued.*

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	12	1·6	2	·2	—	—
Syphilis	255	35·2	15	2·	—	—
Gonorrhœa	124	17·1	—	—	—	—
Orchitis	137	18·9	1	·1	—	—
Stricture	19	2·6	2	·2	—	—
Incontinence of Urine, &c.	3	·4	1	·1	—	—
Rheumatism	643	88·8	50	6·9	1	·1
Gout	4	·5	—	—	—	—
Disease of the Bones and Joints	34	4·6	3	·4	—	—
Inflammation of the Eyes	66	9·1	5	·6	—	—
Amaurosis and Cataract	1	·1	2	·2	—	—
Otitis and Deafness	36	4·9	3	·4	—	—
Erysipelas	13	1·7	—	—	—	—
Scrofula	7	·9	1	·1	—	—
Bubo (*Symp.*)	66	9·1	—	—	—	—
Phlegmon and Abscess	2,066	285·3	1	·1	—	—
Ulcer	452	62·4	5	·6	—	—
Psora	31	4·2	—	—	—	—
Eruptions, &c.	·66	9·1	4	·5	—	—
Dyspepsia and Debility	343	47·3	7	·9	1	·1
Scurvy	5	·6	—	—	—	—
Dropsy	7	·9	—	—	—	—
Worms	11	1·5	—	—	—	—
Headache	66	9·1	—	—	—	—
Pyæmia	1	·1	-	-	1	·1
Wounds and Injuries	1,780	245·8	9	1·2	8	1·1
Burns and Scalds	74	10·2	—	—	—	—
Hernia	9	1·2	4	·5	—	—
Drowned	-	-	-	-	7	·9
Poison	1	·1	—	—	—	—
TOTAL	10,051	1388·2	249	34·3	60	8·2

TABLE, No. 2.

SHOWING the Number of DAYS' SICKNESS from each DISEASE and from INJURIES, the Average Number of Men Sick Daily, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Continued and Remittent Fever	8,240	2,633	10,873	29·7	4·1
Intermittent Fever	1,329	169	1,498	4·1	·5
Small Pox	37	131	168	·4	—
Measles	14	-	14	—	—
Scarlatina	19	40	59	·1	—
Disease of the Brain	123	83	206	·5	—
Apoplexy	23	21	44	·1	—
Epilepsy	192	45	237	·6	—
Paralysis	120	65	185	·5	—
Insanity	12	124	136	·3	—
Delirium Tremens	123	16	139	·3	—
Neuralgia	127	-	127	·3	—
Vertigo	196	-	196	·5	—
Inflammation of the Lungs and Pleura	1,517	824	2,341	6·4	·8
Phthisis and Hæmoptysis	1,226	667	1,893	5·1	·7
Influenza and Catarrh	7,974	173	8,147	22·3	3·
Cynanche	2,490	-	2,490	6·8	·9
Asthma	27	-	27	—	—
Disease of the Heart, Functional and Organic	1,028	711	1,739	4·7	·6
Hæmorrhoids	265	9	274	·7	—
Varix	91	-	91	·2	—
Disease of the Stomach and Bowels	98	-	98	·2	—
Dysentery	206	69.	275	·7	—
Diarrhœa	4,762	271	5,033	13·7	1·8
Cholera	94	12	106	·2	—
Constipation and Colic	361	9	370	1·	—
Disease of the Liver	148	21	169	·4	—
Jaundice	593	26	619	1·6	·2
Splenitis	51	110	161	·4	—

TABLE, No. 2.—Showing the Number of Days' Sickness from each Disease, &c.—*cont^d.*

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	152	105	257	·7	—
Syphilis	6,654	2,285	8,939	24·4	3·3
Gonorrhœa	1,875	- -	1,875	5·1	·7
Orchitis	2,535	150	2,685	7·3	1·
Stricture	274	287	561	1·5	·2
Incontinence of Urine, &c.	76	71	147	·4	—
Rheumatism	9,078	2,731	11,809	32·3	4·4
Gout	18	- -	18	—	—
Disease of the Bones and Joints	514	107	621	1·7	·2
Inflammation of the Eyes	1,006	419	1,425	3·9	·5
Amaurosis and Cataract	1	- -	1	—	—
Otitis and Deafness	360	- -	360	·9	·1
Erysipelas	82	117	199	·5	—
Scrofula	179	15	194	·5	—
Bubo (*Symp.*)	1,982	265	2,247	6·1	·8
Phlegmon and Abscess	17,896	588	18,484	50·6	6·9
Ulcer	8,768	1,332	10,100	27·6	3·8
Psora	179	- -	179	·4	—
Eruptions, &c.	952	50	1,002	2·7	·3
Dyspepsia and Debility	2,287	324	2,611	7·1	·9
Scurvy	66	- -	66	·1	—
Dropsy	108	121	229	·6	—
Worms	156	101	257	·7	—
Headache	493	113	606	1·6	·2
Wounds and Injuries	19,661	1,606	21,267	58·2	8·
Burns and Scalds	1,081	- -	1,081	2·9	·4
Hernia	61	- -	61	·1	—
Poison	4	- -	4	—	—
Pyæmia	7	- -	7	—	—
TOTAL	107,991	17,016	125,007	242·4	33·4

TABLE, No. 3.

SHOWING the Number INVALIDED from each Ship employed on the MEDITERRANEAN Station.

CAUSE of INVALIDING.	Assurance.	Caledonia.	Chanticleer.	Cockatrice.	Cossack.	Enterprise.	Gibraltar.	Magicienne.	Meeanee.	Orlando.	Pelican.	Phœbe.	Psyche.	Racer.	Resistance.	Revenge.	Royal Oak.	Tyrian.	Victoria.	Wanderer.	TOTAL.
Continued and Remittent Fever	–	–	1	–	–	–	–	–	–	1	–	–	–	–	1	–	1	–	3	–	7
Intermittent Fever	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1
Inflammation of the Brain	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Insanity	–	1	–	–	–	–	2	–	–	–	–	–	–	1	–	–	–	–	1	–	5
Epilepsy	–	1	–	–	2	–	1	–	–	1	–	1	–	–	–	1	2	–	2	–	11
Paralysis	–	–	–	–	–	1	1	–	–	–	–	–	–	–	–	–	1	1	–	–	4
Vertigo	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1	–	–	–	2
Inflammation of the Lungs and Pleura	–	–	1	–	3	–	1	–	2	–	–	–	–	–	–	1	–	–	–	–	8
Phthisis and Hæmoptysis	1	3	1	–	1	6	3	1	10	6	–	3	–	1	2	–	6	–	7	1	52
Cynanche	–	–	–	–	–	1	–	–	–	–	–	1	–	–	–	–	–	–	2	–	4
Asthma	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	1
Disease of the Heart, Functional and Organic	–	–	–	–	1	1	1	–	6	1	4	3	–	1	1	–	2	2	–	–	23
Aneurism	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	1
Varix	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	–	–	–	–	–	3
Inflammation of the Stomach and Bowels	–	–	–	–	–	–	–	–	c1	–	–	–	–	–	–	–	–	–	d1	–	2
Dysentery	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Diarrhœa	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	2	–	6
Disease of the Liver	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	2
Inflammation of the Kidneys and Bladder	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	–	2
Syphilis	1	–	–	–	–	–	4	–	–	–	–	1	–	–	1	–	1	–	7	–	15
Orchitis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1
Stricture	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	2
Incontinence of Urine, &c.	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Rheumatism	–	2	1	–	1	–	5	1	1	1	1	2	1	1	6	–	11	–	16	–	50
Diseases of the Bones and Joints	–	–	–	1	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	3
Inflammation of the Eyes	–	–	–	–	–	1	1	–	–	1	–	–	–	–	1	–	–	–	1	–	5
Amaurosis and Cataract	–	–	–	–	a1	b1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2
Otitis and Deafness	–	–	–	–	–	1	1	–	–	–	–	–	–	–	–	–	–	–	1	–	3
Scrofula	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Abscess	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1
Ulcer	–	–	–	–	–	–	–	–	2	–	–	1	–	–	–	–	1	–	1	–	5
Eruptions, &c.	–	–	–	–	–	1	1	–	1	1	–	–	–	–	–	–	–	–	–	–	4
Dyspepsia and Debility	–	1	–	–	–	–	1	–	–	–	1	2	–	–	1	–	1	–	–	–	7
Wounds	–	–	–	–	–	–	1	1	–	1	–	1	–	–	–	–	2	–	2	1	9
Hernia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	2	–	4
TOTAL	3	9	6	1	10	16	23	3	27	13	7	15	1	5	14	2	38	3	51	2	249

a Myopia. *b* Nyctalopia. *c* Hæmatemesis. *d* Tumor.

TABLE, No. 4.

SHOWING the Number of DEATHS in each Ship employed on the MEDITERRANEAN STATION.

CAUSE of DEATH.	Assurance.	Caledonia.	Chanticleer.	Cossack.	Gibraltar.	Hibernia.	Magicienne.	Meeanee.	Orlando.	Pelican.	Phœbe.	Racer.	Resistance.	Revenge.	Royal Oak.	Victoria.	TOTAL.
Continued and Remittent Fever	1	1	–	1	1	–	1	1	–	–	1	–	–	–	3	2	12
Inflammation of the Brain	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1
Epilepsy	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
Inflammation of the Lungs and Pleura	–	–	–	–	1	1	–	–	1	–	1	–	1	2	–	–	7
Phthisis	–	2	–	–	1	–	–	–	–	–	–	–	–	–	1	2	6
Disease of the Heart	–	–	–	–	–	–	–	2	–	–	–	1	–	–	–	–	3
Enteritis	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1
Diarrhœa	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1
Cholera	3	–	2	–	–	1	1	–	–	–	–	–	–	–	–	–	7
Disease of the Liver	–	–	–	–	1	–	–	1	–	–	1	–	–	–	–	–	3
Rheumatism	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1
Pyæmia	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
Cachexia	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1
Wounds and Injuries	–	–	–	–	1	–	–	–	2	–	1	–	1	1	1	1	8
Drowned	–	1	–	–	2	–	–	1	1	–	–	1	1	–	–	–	7
TOTAL	4	4	2	1	7	2	2	5	6	1	4	2	5	3	5	7	60

Table, No. 5.

Showing the Names of the Ships; the Average Complements, &c.; the Number of Cases; Daily, in each Ship; and the

C. Commissioned. P. O. Paid off.

Rates.	NAMES OF SHIPS.	Where Commissioned.	When Commissioned.	Number of Guns.	Tonnage.	Horse Power.
Iron-Clad	Caledonia C.	Devonport	27 April 1865	30	4,125	S. 1,000
	Enterprise	Woolwich	6 May 1864	4	993	S. 160
	Resistance	Sheerness	2 July 1862	16	3,710	S. 600
	Royal Oak	Chatham	27 April 1863	35	4,056	S. 800
First Rate	Victoria	Portsmouth	1 Nov. 1864	102	4,127	S. 1,000
Second Rate	Gibraltar	Devonport	12 Sept. 1863	81	3,729	S. 800
	Revenge P. O.	Portsmouth	1 May 1861	73	3,322	S. 800
Third Rate	Meeanee	Sheerness	20 Nov. 1862	60	2,591	S. 400
Fourth Rate	Orlando	Devonport	17 Dec. 1861	46	3,740	S. 1,000
	Phœbe	Devonport	23 Sept. 1862	35	2,896	S. 500
Sixth Rate	Cossack	Sheerness	19 May 1863	20	1,296	S. 250
	Magicienne P. O.	Devonport	15 Mar. 1862	16	1,258	P. 400
Sloop	Chanticleer	Portsmouth	11 Dec. 1861	17	950	S. 200
	Pelican	Portsmouth	6 Sept. 1861	17	952	S. 200
	Racer	Woolwich	22 June 1864	11	579	S. 150
Steam Vessel	Caradoc	Woolwich	16 Jan. 1863	2	676	P. 350
	Firefly	Woolwich	21 Feb. 1860	5	550	P. 220
	Hydra	Malta	10 Nov. 1863	6	818	P. 220
	Psyche	Woolwich	18 Oct. 1862	2	835	P. 250
Gun Vessel	Assurance	Devonport	11 May 1864	4	681	S. 200
	Surprise	Devonport	24 June 1861	4	680	S. 200
	Wanderer P. O.	Sheerness	22 June 1861	4	675	S. 200
	Weser P. O.	Woolwich	4 Mar. 1861	6	590	P. 160
Gun Boat	Cockatrice	Portsmouth	14 Mar. 1861	2	269	S. 60
	Tyrian C.	Malta	13 July 1865	2	272	S. 60
Receiving Ship	Hibernia	Malta	1 April 1862	–	2,530	–

- - - - - - - - - TABLE, No. 5.

the Total Number of Days' Sickness on Board; the Average Number of Men Sick Number discharged to Hospital.

Period.	Average Complements.	Average Complements corrected for Time.	Number of Cases of Disease and Injury.	Number of Days' Sickness on Board.	Average Number of Men Sick Daily for Twelve Months.	Ratio per 1,000 of Average Force of each Ship.	Number Discharged to Hospital.
1 July to 31 Dec.	635	320	364	5,663	15·5	48·4	17
Year - -	125	125	321	2,841	7·7	61·6	23
Year - -	460	460	427	5,119	14·	30·4	19
Year - -	600	600	807	10,575	28·9	48·1	57
Year - -	1,015	1,015	1,404	14,569	39·9	39·8	41
Year - -	870	870	926	9,864	27·	31·	25
1 Jan. to 26 Apr.	860	285	252	2,792	7·6	26·6	16
Year - -	615	615	1,139	16,319	44·7	72·6	49
Year - -	585	585	836	8,385	22·9	39·1	30
Year - -	510	510	768	7,483	20·5	40·1	28
Year - -	275	275	748	6,048	16·5	60·	13
1 Jan. to 12 Dec.	235	215	302	2,230	6·1	28·3	14
Year - -	190	190	261	2,748	7·5	39·4	10
Year - -	180	180	303	2,989	8·1	45·	9
Year - -	135	135	112	838	2·2	16·2	6
Year - -	65	65	69	525	1·4	21·5	-
Year - -	85	85	68	681	1·8	21·1	-
Year - -	125	125	197	1,454	3·9	31·2	1
Year - -	65	65	99	792	2·1	32·3	2
Year - -	85	85	194	2,246	6·1	71·7	20
Year - -	95	95	78	810	2·2	23·1	4
1 Jan. to 16 Aug.	95	60	75	629	1·7	28·3	1
1 Jan. to 19 July	65	35	48	456	1·2	34·2	1
Year - -	35	35	63	377	1·	28·5	1
23 July to 31 Dec.	40	15	25	186	·5	33·3	4
Year - -	195	195	165	1,931	5·2	26·6	12

Table, No. 6.

Showing the Number of Cases of all Diseases and Injuries

DISEASE OR INJURY.	Assurance.	Caledonia.	Caradoc.	Chanticleer.	Cockatrice.	Cossack.	Enterprise.	Firefly.	Gibraltar.	Hibernia.	Hydra.	Magicienne.
Continued and Remittent Fever	12	6	1	7	9	70	22	5	8	18	9	9
Intermittent Fever	24	–	–	–	10	1	5	–	4	1	11	–
Small Pox	–	–	–	–	–	–	–	–	–	–	–	–
Scarlatina	–	–	–	–	–	–	–	–	–	–	–	–
Measles	–	–	–	–	–	–	–	–	–	1	–	–
Disease of the Brain	–	–	–	–	–	*a* 3	–	–	–	–	–	–
Apoplexy	–	–	–	*b* 1	–	–	–	–	–	–	–	–
Epilepsy	–	1	–	–	–	1	–	–	2	1	–	–
Paralysis	–	1	–	–	–	–	2	–	2	1	–	–
Insanity	–	1	–	–	–	–	–	–	1	–	–	–
Delirium Tremens	–	–	–	2	1	1	–	1	1	5	1	1
Neuralgia	–	–	2	2	–	1	–	–	–	–	–	2
Vertigo	–	–	–	–	–	–	3	–	–	1	–	–
Inflammation of the Lungs and Pleura	–	6	–	6	1	4	5	–	5	5	1	2
Phthisis and Hæmoptysis	1	6	–	2	–	4	3	–	6	4	–	2
Catarrh	14	37	4	35	6	73	21	1	128	15	51	57
Cynanche	2	9	4	4	1	12	9	–	38	1	3	10
Asthma	–	–	–	–	–	–	–	–	–	–	–	–
Disease of the Heart, Functional and Organic	–	1	–	–	–	1	3	1	2	4	–	3
Hæmorrhoids	–	–	2	1	–	–	4	–	1	1	–	2
Varix	–	–	–	–	–	–	–	–	–	–	–	–
Inflammation of the Stomach and Bowels	–	–	–	–	–	–	–	–	–	–	–	–
Cholera	4	–	–	2	1	2	–	–	–	1	–	–
Dysentery	2	–	–	2	2	–	3	–	–	–	–	–
Diarrhœa	32	34	14	36	8	146	17	2	39	15	19	45
Constipation and Colic	1	–	–	2	–	13	4	1	7	5	1	–
Inflammation of the Liver	–	–	–	–	–	–	–	1	–	–	–	–
Jaundice	–	1	–	4	–	–	–	1	5	1	2	1
Splenitis	–	–	–	–	–	–	–	–	–	1	–	–
Inflammation of the Bladder and Kidneys	1	–	–	–	–	1	–	–	–	–	–	1
Syphilis, Primary	7	29	–	1	3	2	17	1	36	12	1	9
Gonorrhœa	–	3	1	1	1	2	9	2	23	5	1	8
Orchitis	3	6	2	–	1	6	2	1	19	3	2	6
Stricture of the Urethra	1	1	–	1	–	–	–	–	5	–	–	2
Incontinence of Urine, &c.	–	–	–	2	–	–	–	–	–	–	–	–
Rheumatism	14	10	3	12	3	42	15	5	56	11	12	13
Gout	1	–	–	–	–	–	–	–	–	–	–	–
Disease of the Bones and Joints	1	–	2	–	–	9	2	–	2	–	–	3
Inflammation of the Eyes	2	5	–	5	–	1	6	2	5	2	2	1
Amaurosis and Cataract	–	–	–	–	–	–	1	–	–	–	–	–
Otitis and Deafness	–	–	–	1	–	1	3	–	1	–	–	3
Erysipelas	–	1	1	–	1	–	–	–	–	–	1	–
Scrofula	–	–	–	–	–	–	4	–	1	–	–	–
Bubo (*Symp.*)	–	1	–	2	–	8	1	–	16	2	–	2
Phlegmon and Abscess	14	96	11	47	5	125	70	29	215	13	42	66
Ulcer	5	21	8	16	6	42	6	3	20	13	4	4
Psora	–	–	–	–	–	1	10	–	–	1	–	–
Eruptions, &c.	–	3	–	8	–	–	5	1	–	1	–	–
Dyspepsia and Debility	17	16	5	5	–	25	6	5	61	7	11	9
Scurvy	–	–	–	–	–	–	–	–	1	–	–	–
Headache, &c.	2	–	1	2	–	24	–	–	–	1	–	2
Dropsy	1	–	–	–	–	–	–	–	2	–	–	–
Worms	–	*d* 1	–	–	–	*de* 4	*d* 1	–	–	–	–	–
Wounds and Injuries	32	64	8	50	3	117	60	5	204	13	22	38
Burns and Scalds	1	4	–	2	1	5	2	1	10	–	1	1
Hernia	–	–	–	–	–	1	–	–	–	–	–	–
Pyæmia	–	–	–	–	–	–	–	–	–	–	–	–
Poisoning	–	–	–	–	–	–	–	–	–	–	–	–
Total	194	364	69	261	63	748	321	68	926	165	197	302

a 1 Cerebro-Spinal Meningitis. *b* Insolatio. *c* Hæmatemesis.

TABLE, No. 6.

in each Ship employed on the MEDITERRANEAN STATION.

Meeanee.	Orlando.	Pelican.	Phœbe.	Psyche.	Racer.	Resistance.	Revenge.	Royal Oak.	Surprise.	Tyrian.	Victoria.	Wanderer.	Weser.	Total.
99	8	66	37	1	6	43	2	54	2		44	1	5	544
16	11		18			5	1	1			16			124
	6		1											7
		1					1	1			1			3
1														2
											1			5
4	2		3					1					2	1
	1							1						20
					1	1					1			8
1			1					3			2		1	5
1	4		1	1		3		1					1	22
7			1					2						19
														14
11	9	2	3	2	1	5	3	7	1		13		2	94
9	3		3	1	1	1	3	3	2		8	1	1	64
143	128	65	57	16	8	43	80	47	19		270	18		1,336
32	36	5	69	1	6	20	2	29	2		63	7	5	370
3														3
21		5	7		1			4		1	2			56
4	2	1	3	1							7			29
5								1		2				8
			1			c 1					1			3
1	2											1		10
37	51	43	65	8	23	23	1	75	6	3	63	2	7	13
4	4		24	2	2	10		1	2			1		814
2								1						84
2								1						4
1						3		25	1		9			55
														2
1														
52	5	3	11	2	1	3	1	4		1	2			12
28	5		8	3		2		9	1	1	43	1	3	255
23	8	1	6	5	1	7	4	8	1		10	2	1	124
2	3	2						13	1		15		2	137
							1	1			1			19
125	53	10	21	7	6	27	14	67	6	3	103	4	1	3
1	2													643
7	3							3	1				1	4
6	8		6		1		2	4			8			34
														66
10	2		2		1			2	1		8	1		1
	9													36
			1				1							13
8	7		1	2	3	3	3	6			1			7
132	185	51	225	14	28	138	59	115	9	8	351	15	3	66
55	42	11	30	3	3	5	20	64	7	1	58	1	4	2,066
5			1	1			1	10					1	452
3	8	1	2		1	1		11			19	2		31
52	37	1	35	5	5	13	1	15		1	6	5		66
			1								3			343
17		1	5	3	2	2		2	2					5
3		1												66
	f 3										2			7
193	174	31	118	20	11	61	50	208	15	4	261	13	8	11
11	14	1	1			5	2	5	2		5			1,780
	1	1						3			4			74
				1										9
														1
														1
1,139	836	303	768	99	112	427	252	807	78	25	1,404	76	48	10,061

d 1 Tænia. e 3 Dracunculus. f Tænia.

NORTH AMERICAN AND WEST INDIAN STATION.

North American and West Indian Station.

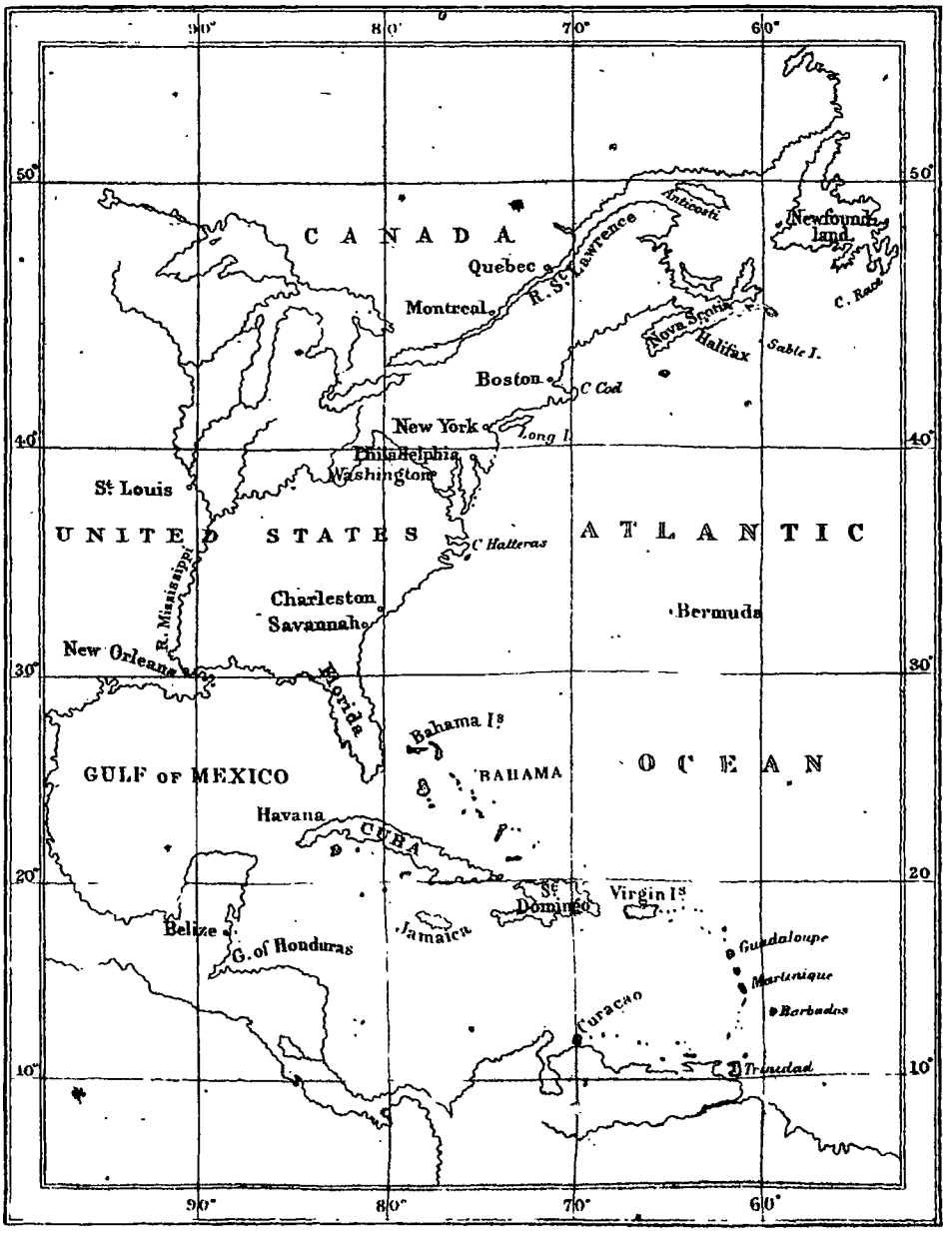
THE squadron on the North American and West Indian Station in 1865 consisted of twenty-five vessels, comprising one of the second rate; three of the fourth rate; four of the sixth rate; eleven sloops; four gun-vessels; one receiving ship, permanently stationed at Port Royal, Jamaica; and one floating battery, permanently stationed at Bermuda. The returns from seventeen of these vessels are for the whole year, and from the remainder for periods varying from three to ten months. The mean force corrected for time was 5,180, and the total number of cases of disease and injury placed on the sick-list 8,759, which is in the ratio of 1690·9 per 1,000 of mean force, being an increase, as compared with the previous year, equal to 187·3 per 1,000. Of these 167 were invalided, and sixty-five died, the former being in the ratio of 32·2, and the latter of 12·5 per 1,000. There is an increase in the ratio of invaliding to the extent of 7·5, and a reduction in the death rate of 3·3 per 1,000 of force, as compared with 1864.

About thirty men, or in the ratio of 5·6 per 1,000 of mean force, were daily under treatment for febrile diseases, including the exanthemata. The daily sick-rate from diseases of the brain and nervous system was ·3 per 1,000; from diseases of the organs of respiration, 3·8; of the heart and bloodvessels, ·7; of the alimentary canal, 2·4; of the liver, ·3; of the genito-urinary organs, 7·4, almost all of venereal origin; from rheumatism, 3·3; from diseases of the bones and joints, ·3; of the special senses, ·8; of the skin and cellular tissue, 16·1; from diseases not classed, 1·5; and from wounds and injuries of various kinds, and hernia, 9·2. The total number of men daily on the sick-list was about 282, being in the ratio of 54·5 per 1,000 of mean force, which is a slight increase as compared with the preceding year.

Fevers.—There were 909 cases of continued and remittent fever; eleven of yellow fever; 131 of ague; three of small-pox;

NORTH AMERICAN AND WEST INDIAN STATION.

(To face p. 86.)



pox; and one of measles, under treatment during the year; and of these, three of primary fever and three of yellow fever proved fatal. The mean duration of each case of primary fever was between nine and ten days; of each case of yellow fever, between eight and nine days; of each case of ague, about a fortnight; of each case of smallpox, thirty-seven days; and of the case of measles, twelve days.

Continued and Remittent Fevers.—The vessels that suffered most from these fevers were the Aboukir, the Aurora, Bulldog, Cadmus, Cordelia, Duncan, Lily, Niger, Rosario, Sphinx, and Wolverene.

There were eighty-two cases of primary fever in the Aboukir, the receiving ship at Port Royal. Of these, sixty-six occurred during the Christmas quarter of the year, and are said to have been of a mild character. They appear in the Returns as of the remittent type, and are said to have been almost invariably ushered in by rigors, followed by heat of skin, quick pulse, frontal headache, and pains in the lumbar region and lower extremities. In a few cases there was considerable gastric irritation. This epidemic was not confined to the Aboukir, but, it appears, affected the military at the stations of Port Royal, Up Park Camp, and New Castle, as well as the civil population of Kingston. In the Aboukir most of the cases occurred in the persons of men who had been employed on service at Morant Bay, and much exposed to atmospheric vicissitudes.

There were forty-four cases of primary fever in the Aurora, one of which proved fatal. Eighteen of these are classed as continued fever, two as remittent, and twenty-four as ephemeral. The cases were tolerably equally spread over the year. The fatal case was complicated with pneumonia. The man had been brought on board from a public-house, having been on leave for several days. The fever was of a low type, and at first his symptoms presented very much the character of delirium tremens; but, although brought from a suspicious locality, there appears no evidence that he had been drinking. Indeed, both he and the companion who was with him positively asserted the contrary. He had, it appears, been confined for two days to his bed before he was brought off to the ship. On post-mortem examination of the body, the left lung was found to be inflamed throughout its entire extent The right lung was healthy. There were no points of particular interest connected with the other cases in this ship.

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There were ninety-nine cases of primary fever in the Bulldog, all of which are classed as remittent. The average duration of each case on the sick-list, on board ship, was between seven and eight days. In the majority of instances the type was mild and readily yielded to treatment, but in some the subsequent debility was out of all proportion to the symptoms of the active disease, and convalescence was very protracted. Twelve cases of remittent fever were entered on the sick-list in the Lady quarter, fourteen in the Midsummer quarter, forty-three in the Michaelmas quarter, and thirty in the Christmas quarter. With reference to the cases that occurred during the Michaelmas quarter, the Surgeon* of the Bulldog says:—

"On the 5th of January we left Jamaica for Cape Haytien, and arrived there on the 11th. The climate of that place was very favourable, and the health of the ship's company improved while there. However, on all occasions when men were exposed to rain, even for a short time, some cases of fever occurred, those most readily affected being such men as had already suffered from one or more attacks of this disease. Every precaution was taken to preserve the health of the men in as good condition as possible, but occasionally boats' crews were necessarily exposed to heavy rain, and invariably after such exposure some cases of fever occurred, showing how much the constitution of the men had suffered from our prolonged service in the Gulf of Mexico; since which time the tendency to fever among our men was very marked, and on all occasions I found that every succeeding attack of the disease was followed by a more lingering and unsatisfactory convalescence. In a large number of those cases which occurred at Haytien, the most urgent symptom was violent sickness of stomach with vomiting, and epigastric pain. Frontal pain with lumbar distress, a white deeply-coated tremulous tongue, and an irregular pulse, were present in all during the access of the fever. I found the febrile paroxysm usually lasted from twelve to fourteen hours, and that one of these attacks occurred each day for three, or five, or seven days. During the recess of fever the patient was free from complaint, but quite feeble and exhausted. In a very few cases I observed some tendency to gastric disease: these men recovered slowly, and were liable to relapses or secondary attacks. From the first appearance of the disease till the subsidence of the febrile paroxysms, I gave salines in repeated doses; but so soon as the tongue began to clean from the tip and margins I gave quinine in doses of three or five grains at intervals of four hours. I found this mode of treatment answer well. Quinine during the outset of the disease did not seem to me to be indicated, but rather tended to increase gastric disorder."

The cases of fever that occurred during the Christmas quarter

* Dr. Breakey,

quarter of the year, were doubtless occasioned by the great exposure which the men experienced subsequent to the destruction of the vessel off Cape Haytien, on the 23rd of October. Some cases, however, followed upon general leave given subsequently at Jamaica, and in these the symptoms were so urgent that it was deemed advisable to put a stop to the leave.

There were fifty-eight cases of primary fever in the Cadmus, respecting which the Surgeon* says :—

"Ten showed the disease in a simple continued form; twenty-four were mild febrile attacks, and for the most part ephemeral in their nature; and twenty-four showed the remittent type, of very considerable severity in some instances, yet without malignity.

"The cases entered under the head of Continued Fever, occurred in the third and fourth quarters of this year, at a time when the ship was employed on the Jamaica division of the station. They were in all ten in number, nine of which were discharged to duty, and one was sent to hospital at Port Royal. All the cases may be said to have been of the simple variety, yet they were of a longer continuance and of a more undecided aspect than cases of febricula so called.

"Among the latter cases, when a fever of the remittent type was prevalent in the ship, it was observed that there was a tendency to take on that type, and it is rather remarkable that in the only case sent to hospital, when the subject of the attack (a steady intelligent man, a gunner's mate) was first taken ill, he said he was sure he was going to have yellow fever, for he felt precisely the same symptoms he had formerly experienced when seized with yellow fever, years ago, on the west coast of Africa. He thought so, he said, from the terrible pain and burning in the eyes, the headache, dull aching in the loins, and great prostration of strength. But the yellowness of the skin, the irritability of the stomach, and the epigastric pain—the most striking features in that disorder—were wanting. Fortunately for himself, and perhaps for many others besides, his fears were not realised; for the attack ran its course without any bad symptom, and a tedious convalescence marked by protracted debility was the worst feature in his disease.

"Of the cases of remittent fever, twenty-four in number, fourteen were discharged to duty, nine were sent to hospital, and one was invalided. I think there can be little doubt but that the majority of these cases, at least, can have their origin traced to malarious poison imbibed during the month of August at St. Lucia, on the north coast of Jamaica, where leave was granted to the crew. The town of Lucia at that time was said to be perfectly healthy; but the whole of the district in which it is situated, I believe to be always, even at the most healthy periods of the year, more or less subject to poisonous exhalations from mangrove swamps not far distant. Each watch

* Surgeon James Johnstone.

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watch of the ship's company enjoyed the twenty-four hours leave in turn, and with very few exceptions the men spent the night on shore, many of them sleeping on the ground-floor of a police guard-house, which was almost the only place in the town where they could obtain shelter after dark. On the 30th of August, just twelve days after this exposure, the first case appeared in the person of a marine artilleryman, a man of sober steady habits, but who had slept on shore at St. Lucia. The patient was sent to hospital on the third day of the attack, before any very distinct remission had taken place, but the disease soon fully developed itself after his removal from the ship."

Cases continued to be entered daily at first, but afterwards at longer intervals until the 22nd of October, when the last case occurred. During this time the vessel was either at Port Royal, or on the Spanish Main, or making a passage to the Gulf of Mexico :—

"Great irritability of the stomach, severe head symptoms, or other complcations, were very rarely met with in the course of this disease. The chief features noticeable were the regularity of the remissions, with their frequency, and the subsequent tedious convalescence of the patients.

"With regard to the treatment adopted: a brisk emetic was given at the commencement of the attack, the bowels were as soon as possible acted upon by sulphate of magnesia, saline diaphoretics, with or without the tartrate of antimony, were given, and quinine was, as early as possible, administered. In fact, the ordinary febrile remedies were employed. During the stage of convalescence both wine and malt liquors were freely given, and a diet as nourishing as could be procured allowed."

There were forty-five cases of primary fever in the Cordelia. The majority of these cases occurred during the Midsummer and Christmas quarters of the year, and although, in some instances, the symptoms ran high, and convalescence was protracted, they all ultimately did well. They were of a continued type, and almost invariably ushered in by rigors, headache, general languor, and aching pains in the limbs and loins. The tongue was coated, and the pulse averaged about 100. In some cases it rose as high as 130. As a rule, the head symptoms were comparatively mild, but in one case active delirium supervened.

In the Duncan there were 118 cases of primary fever. Of these, nine are classed as continued, fifteen as remittent, and ninety-four as ephemeral. The latter type of fever occurred chiefly at Jamaica, where it was very prevalent, both on shore and afloat, in the Christmas quarter of the year. All the cases in the Duncan were of a mild form, the duration of each being

being from three to five days. One case, occurring in a young officer who had been previously in a delicate state of health, was sent to hospital.

The cases of remittent fever were very obstinate. The majority of them were contracted at Nassau, and the remainder occurred during the passage from that place to Bermuda. The cases of continued fever were also tedious: the average duration of each case was about fifteen days. The average duration of each case of remittent fever was between nine and ten days.

There were seventy-six cases of primary fever in the Lily, of which one proved fatal. The majority of these cases occurred in the Michaelmas quarter, and are attributable to exposure at Cape Haytien, where those first attacked were landed for the purpose of protecting the British Consulate during an insurrectionary movement then in progress. The disease subsequently affected the officers and seamen on board, forty-six cases altogether occurring during this epidemic. The nature of the symptoms varied from those of a simple ephemeral to a severe remittent type, characterised by great prostration of strength and protracted convalescence. The case that proved fatal occurred in the person of one of the Marines landed as a guard. Until about ten hours previous to his death, his symptoms did not appear more severe than those of the others. The fever was prevailing extensively on shore at Cape Haytien at the time. The Surgeon* says:—

"The town having been for some time in a state of siege, the people were beginning to feel the want of fresh provisions, especially vegetables, which were scarcely, if at all, to be had, whilst the sanitary arrangements of the community were entirely suspended; the gutters from the larger houses being converted into so many open sewers leading to the middle of the streets, which became the receptacle of everything offensive, especially towards the beach, where the ground is more uneven, and the declivity slight. There is no marsh, except to the east of the town and anchorage, about half a mile distant, to the vicinity of which the men were in the habit of going on seining expeditions."

After this epidemic, and under the excitement of active employment, the health of the ship's company began to improve, and the tendency to febrile disease diminished, until the

* Surgeon Robert Mungle.

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the arrival of the ship at Port Royal on the 24th of November, when there was only a single case on the sick-list. General leave, however, was granted at Kingstown on the 29th, and within a fortnight after fever again made its appearance on board. Sixteen of the cases were of an ephemeral type, and five were remittent. Three of the latter were sent to the hospital at Port Royal, and the remainder rapidly recovered after the arrival of the vessel at St. Lucia, which has a northern exposure, and is said to be noted for its salubrity. This outbreak differed in type from the former one, inasmuch as in several cases it assumed a more continued form.

There were fifty-three cases of primary fever in the Niger, all, with the exception of two, being ephemeral in character. The majority of the cases are said to have closely resembled Dengue; severe frontal headache, with or without vomiting, and muscular pains, being nearly always present. In some there were nocturnal exacerbations, but the continued form was also common. Convalescence was ushered in, in several, by diarrhœa, in some by herpetic eruptions, at the angles of the mouth and alæ of the nose, and in one by an attack of acute orchitis. The two cases, not of an ephemeral character, were remittent in their type. Rigors, vomiting, tenderness at the epigastrium, marked depression, and icteroid tinging of the skin, and sclerotic conjunctiva, were the prominent symptoms.

There were forty-two cases of primary fever in the Rosario, of which twelve are classed as continued, twenty-seven as remittent, and three as ephemeral. The average duration of each case of continued fever was between three and four days, and as this was also the ordinary duration of each of the cases classed as ephemeral, they may be considered to have been of much the same character. The average duration of each case of remittent fever was eight days. Thirteen of the cases of remittent fever occurred at Jamaica, following general leave of fifty-two hours' duration given to the ship's company. In many of these cases the symptoms were of some severity, but no mortality resulted from them.

In the Wolverene there were ninety-two cases of primary fever, eighty-nine of which occurred at Jamaica in the Christmas quarter of the year, and were attributable to exposure consequent on the landing of a naval brigade at Morant Bay during

during the insurrection. The total strength of the brigade was 120; comprising eight officers, thirty-six marines, and seventy-six seamen. This force landed on the 12th of October, and re-embarked on the 31st of the same month. There would not appear to have been much sickness in the brigade until after the 20th, when a detachment marched to Easington, distant eighteen miles. The assistant-surgeon,* who was landed with the force, says:—

"On the 20th, at 2 p.m. again accompanied a detachment of marines and sailors to Easington, where we remained ten days, for the first four of which there was almost constant rain, with hot sun at intervals, rendering the small flat extent of ground on which the court-house (our quarters) was situated, a perfect swamp. Surface drains were dug to carry off as much as possible of the water, and quinine, with an extra allowance of spirits administered every day; but several cases of the country malarious fever occurred; ten altogether. The first appeared on the afternoon of the 25th of October, after there had been several hours of burning sun, and of course a large amount of surface evaporation; another later in the same day; one on the 26th; two on the 27th; five on the 28th; and one on the 29th.

"In some of the cases the symptoms came on suddenly, very much resembling sunstroke. A marine, for example, fell down while in the ranks under inspection, being, apparently, insensible for about two minutes. Subsequently the face became flushed, the eyes injected, the body hot and moist, the respiration fluttering, the pulse full and hard, 90; and the tongue furred; great pain was complained of in the head and back, with nausea and vomiting."

Under the treatment adopted he speedily recovered. Another man was found lying in an unconscious state on the ground, outside an outhouse, and was with difficulty roused; he subsequently presented similar symptoms as in the former case.

"The other cases were less sudden in their onset, and more severe and lasting in their subsequent course, commencing with rigors, followed by heat and perspiration, frontal headache, nausea, and bilious vomiting, and frequently with delirium at night. Among these may be mentioned the case of a marine, who was placed on the sick-list on the 28th of October, complaining of severe headache, pain and tightness across the chest, with nausea. The surface of the body was hot and moist, the tongue white and furred, the bowels were said to be confined; the pulse was 92. He had felt ill since the 26th, when he was attacked with rigors and subsequent heat in alternating paroxysms.

"On the 27th he suffered from headache and vertigo, with several shivering attacks, but continued at his duty without applying for advice.

* Assistant Surgeon Septimus Terry.

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advice. On the 29th he was very delirious during the night for several hours, but had some quiet sleep towards daybreak; in the morning he rambled in his talk, and appeared unable to express his ideas; he could not walk, nor stand upright without support; the body was cooler than on the preceding day; the face was flushed, and the head continued hot; the pupils were slightly enlarged and sluggish; the tongue was becoming dry, and the pulse was 88; the bowels had been twice moved on the previous evening.

"On that evening, at 9 p.m., the detachment left Easington for Morant Bay under sudden orders, this man and the other fever cases being driven in a cart. All went well till our arrival at the last river, Morant River, about four miles from the head quarters; this, though not so wide as others we had crossed, was deeper and swifter, and a marine attempting to cross on horseback about 3 a.m. of the 30th, lost his seat, and was instantly swept away by the current and drowned, without the slightest chance of any attempt to save him being effectual. No more attempt at crossing was made till the arrival of ropes and planking from the town, with which, and a couple of carts, a rough though safe bridge was constructed. This involved a delay of from four to five hours, during the whole of which time the men were exposed to incessant rain. The marine whose case is referred to, being unable to walk, was driven safely over, firmly secured in a strong four-wheeled carriage, a stout rope being attached to each of the shafts, to be hauled upon from the opposite side, if necessary. On our arrival at Morant Bay, he was taken to the temporary hospital, where he was furiously delirious all that night, occasionally requiring the assistance of two men to restrain his struggles. The conjunctivæ were tinged with yellow. On the following day, the 31st, he was sent to the Naval Hospital at Port Royal. Fifteen new cases occurred during the 30th at Morant Bay, owing, no doubt, to the fatigue of the men, and their prolonged exposure to wet and cold on the march.

"The whole of the brigade re-embarked on the morning of the 31st of October, there being twenty-four of the total number ill with fever, fifteen of whom were sent to Port Royal Hospital on our arrival there in the afternoon. During the next fortnight thirty-four more cases of the same type of fever occurred among those who had been landed, the last case being on the 14th of November."

The surgeon* of the Wolverene, remarking on this outbreak of fever, says, that altogether sixty-four men suffered a primary attack, and of ten cases of intermittent fever, six occurred among those who had suffered from the remittent contracted on shore, and were merely relapses of the disease. He adds,—

"The form of remittent fever which occurred amongst those who landed in Jamaica was not of the most serious type. The fever generally

* Surgeon D. Wilson.

generally set in with intense headache, giddiness, and a sense of weight in the head; there was aching and weariness of the limbs; sometimes cramps and pains in the calves of the legs, nausea, and vomiting; the skin was sometimes burning and parched, at others moist and clammy; the pulse for the most part was hard, bounding, and quick, but occasionally soft and compressible; the tongue was white, and covered with a thick fur; the bowels were generally confined. When the vomiting was troublesome, the patient could seldom bear pressure over the abdomen or side without pain. The progress of the fever was generally rapid, and, with a few exceptions, the febrile paroxysms terminated on the third or fifth day. As the disease advanced in the more serious cases, the symptoms increased in violence, were frequently followed by internal complications, and often passed into the intermittent type, which protracted the cure.

"The treatment for the fever caused by malarious poison, was to give a mild purgative, consisting of infusion of senna, two drachms of sulphate of magnesia, and two or three grains of nitrate of potash at first, unless contra-indicated by diarrhœa. Along with this form of purgative, ten grain doses of quinine were given and continued twice a day, until the febrile symptoms were relieved. When the stomach was irritable, and could not retain the medicine or drink, a draught containing four or five drops of chloroform, with ten of tincture of opium, was found to be very useful in allaying this troublesome symptom. In more obstinate cases a sinapism was applied over the epigastrium with marked benefit; when these means failed, the patient was never pressed to take medicine, but allowed a little brandy or wine; large doses of opium were studiously avoided; it was only when the patient passed two or three nights without sleep that an opiate draught was administered.

"When the convalescence was protracted by internal complications—congestion of the liver or spleen, a mild alterative, composed of equal parts of compound rhubarb and blue pill, was given every night, and the quinine continued in five-grain doses."

Intermittent Fever.—There is nothing of any importance in the cases of ague that were under treatment during the year. As a rule, they occurred in persons who had previously suffered from remittent fever. Thirty-eight cases of fever are classed as intermittent in the returns from the Cygnet, but it appears that a considerable number of them were in reality of the remittent type. The average duration of each case on the sick-list of the vessel was sixteen days.

Yellow Fever.—Eleven cases of this fatal form of fever appear in the returns from the squadron, of which three proved fatal. Eight of these cases occurred in the Bulldog, and three in the Rosario.

In consequence of the total destruction of the Bulldog and the loss of all the medical records of the ship, the history of the outbreak of yellow fever in her is very brief, no details

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of the cases having been preserved. The following is a concise statement of the sequence of cases, as given in the return for the quarter during which the disease appeared on board :—

"On the 16th of May we again left our anchorage at Sacrificios for Anton Lizardo, a healthy and desirable place to lie at, some twelve miles from Sacrificios. While there we had a good supply of fine turtle, which proved to be of great advantage to the health of the men. We returned to Sacrificios on the 23rd of March, benefited by the change. From this date until the 2nd of the present month (June), we lay at Sacrificios, and during this time it was necessary to have frequent communication with Vera Cruz; and for this duty boats left the ship late in the afternoon to avoid exposing the men to the midday sun. A delay of from one to three hours usually occurred, and while waiting, some of the men generally went on shore, and strolled about the town. In this way the first person attacked must have come in contact with the poison of yellow fever, although I have failed to ascertain the fact of contact. We left Sacrificios on the 2nd of this month for Anton Lizardo, and on the 4th an ordinary seaman (one of the boats' crew employed at Vera Cruz) reported himself, complaining of having injured his back by carrying a ladder. On the 6th he was taken violently ill with yellow fever of a very aggravated type, and died on the 11th, the most active treatment seeming to have little effect on the disease. He was nursed throughout by the assistant surgeon and the sick berth attendant, till within about four hours of his death, when further assistance was required, and a stoker volunteered. He assisted to lay out the corpse, and to throw the bedclothes overboard; and on the evening of the 17th, while employed as usual in his ordinary health, he was taken violently ill with the disease, and died on the 21st. The next person attacked came in contact with the first case at the Sick Bay just as the fever had first manifested itself in him; and on the evening of the 18th he became suddenly and violently ill, and died on the 24th. On the night of the 10th, a few hours before the first patient died, the assistant surgeon found it necessary to hold him in his arms for a very short time; he felt sick at the moment, and on the morning of the 21st, had a rigor followed by an attack of the disease in a mild form. He is now convalescent. The next person attacked came in contact with the first case on the 6th for a very short time, and messed near the third patient. On the 20th he was taken ill with symptoms of fever, and is now convalescent from a slight attack. The next case was that of a seaman who was sitting on the forecastle with the third person attacked, when the latter was taken ill. He reported himself on the morning of the 21st, and is now convalescent. The next person attacked was the ships' cook. He is now under treatment, and likely to make a safe recovery. In this case I have no evidence of contact."

No reference is made to the eighth case. In remarking on these cases, the surgeon says :—

"From the first case I have reason to believe the others originated, but

but I have lost all my papers, among which were accurate notes, taken hourly of each case. Prompt measures were adopted to prevent the spread of the disease on board. A deck house was erected abaft the mizen-mast, each man being removed from among the men on the lower deck, as soon as the first symptoms of the disease became manifest. My treatment in all cases consisted in the administration hourly of sesquicarbonate of ammonia with camphor, brandy and chloric æther; and when black vomit appeared, I gave turpentine, creosote, chloroform, brandy with tincture of capsicum, trying one as soon as another seemed to lose its influence."

Three cases of yellow fever appear in the returns of the Rosario, but whether they were in reality examples of the specific disease, appears doubtful. The medical officer* of the ship gives the following report of the cases:—

"On the 27th of July we left for Havana, which we reached on the 20th of August, the ship's company having enjoyed an immunity from disease which contrasts strikingly with their subsequent sickly state up to the date of this return. We remained in Havana close to, but not alongside the coal wharf, from 4.45 p.m. of the 20th, to 8.15 a.m. of the 22nd (forty hours). Here we coaled from barges alongside, the coalheavers and our men working conjointly. Havana at this period was not in a healthy state; modified yellow fever prevailed extensively. The Casas de Sanidad and hospitals were full, the English consul was recovering from it, and his daughter was convalescing from the disease. Two days after leaving, a stoker was taken ill with modified yellow fever. On the 26th, two seamen were taken ill with the same symptoms, and on the following day another seaman was placed on the list with fever, which proved to be ephemeral. A portion of the upper deck, which took in two ports and the ash-shoot, was screened off, in which they were isolated from the rest of the crew. A ventilator was adapted to the roof or canvas which covered it in on the top, and fortunately it blew a contrary wind sufficiently strong, not only to reduce the temperature somewhat, but also to keep up such a current of fresh air, that the effluvia from the sick was instantly wafted through the open ports. The danger of infection was thus obviated, and the type of fever at least maintained modified, if not ameliorated. On arriving at Port Royal on the 31st of August, they were discharged to hospital, and no fresh cases occurred."

The means taken to isolate the suspected cases from the ship's company were very judicious, although there can be little doubt that the fever itself was of the remittent type. The Deputy Inspector General† of the Royal Naval Hospital

* Assistant Surgeon John Mulvaney.
† Deputy Inspector General R. D. Mason.

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Hospital at Port Royal thus alludes to the cases as they were transferred to his care:—

"The Rosario arrived at Port Royal on the 31st of August from Vera Cruz. On her way up she put into Havana on the 20th, and left on the 22nd, having coaled from lighters alongside, about a stone's throw from the coal wharf. Four cases of mild remittent fever occurred in the passage up, which were sent to hospital on her arrival, and six others between that and the 24th of September, when she left for Carthagena."

Small-Pox.—A single case of modified small-pox occurred in the Aurora on the person of a boy who bore very good vaccine marks. On the day previous to the vessel leaving England, he had visited his father, who was lying ill with the disease at the time, and had remained in the house all night. He was carefully isolated from the ship's company, and all communication with him prevented, and fortunately no other cases occurred.

There were two cases of small-pox in the Nimble. The disease was contracted at Port Royal, where it was prevalent at the time the vessel lay there. One of the cases was of the modified variety, but in the other the disease was more severe, the eruption being confluent. Both presented vaccination marks of an indistinct character.

Measles.—Only one case of this form of eruptive fever appeared in the squadron. It occurred on board the Medea, but no information of any kind has been obtained with reference to it.

Diseases of the Brain and Nervous System.—There is a considerable increase in the ratio of cases coming under this head as compared with the preceding year, which is unhappily attributable to the greater prevalence of delirium tremens in the squadron.

There was a fatal case of heat apoplexy in the Aboukir. It occurred in the person of an officer who had previously had several mild attacks of ague, which were not, however, of such a nature as to interfere with his carrying on his duties, being readily checked by quinine. On the 31st of July he had an attack, and, on the recommendation of the surgeon of the ship, went up the mountains on the following day for change of air. Not feeling well, however, he returned to Port Royal on the morning of the 2nd of August, and on his arrival at 10 a.m., was

was in a state of great prostration and stupor. His head was hot, the pulse small and feeble, and the countenance pale. There was also subsultus of the muscles of the face and arms. Ice was applied to the head, and stimulants administered, after which reaction took place, and he was able to answer questions rationally, although in a somewhat confused and disconnected manner. The pulse became full, 116; the head and face hot, and the tongue was moist. The application of the ice was continued, and iced water given him to drink. Blistering fluid was also applied to the back of the head and neck. At 2 p.m. the stupor was increasing, the pulse having risen to 120. The bowels had been moved. Sinapisms were applied to the calves of the legs and inner part of the thighs, and blistering fluid to the vertex. At 3 p.m. all the symptoms were aggravated, there was difficulty in swallowing, the breathing became hurried, control over the sphincters was lost, the pulse was frequent and compressible, there was subsultus tendinum, and coma set in. In this condition he continued until 7.25 p.m., when he expired. A post-mortem examination of the body was made, but unavoidable circumstances prevented the head being opened, and nothing sufficient to account for death was found.

A warrant officer of the Buzzard, while in the act of giving an order to a seaman, suddenly fell down insensible, and in ten minutes expired. He was of an irritable and sanguine temperament; of a spare muscular habit of body; of very temperate habits; had suffered much from constipation, and been under treatment for hæmorrhoids. He had been subject to headaches for a year or two, which were, however, readily relieved by purgative and tonic medicines. He was thirty-eight years of age. The following is the report of the post-mortem examination of the body by the surgeon* of the vessel:—

"*Abdomen.*—Intestines empty and healthy; bladder enormously distended with urine. Liver enlarged and congested, and gall bladder much distended. The kidneys, spleen, and pancreas were healthy. *Head.*—On removing the calvarium, considerable venous oozing took place; the membranes were perfectly healthy; the sinuses were not diseased in any way, nor the veins running into them. There was no peculiar friability of the vessels of the brain, although their coats may have been otherwise diseased. On dividing

* Surgeon John Rorie.

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dividing and reflecting back the dura mater, the cerebral substance was found to be simply flattened from the pressure which an extravasated fluid had occasioned. Extensive extravasation of blood was observed about the base of the brain, from the rupture of some diseased artery situated there, which, however, could not be discovered, perhaps the basilar artery, or one of the arterial communications which constitute the circle of Willis."

There was a fatal case of heat apoplexy in the Gannet. It occurred on the person of a seaman, a very steady, well conducted man, who was much confined in a close hot chart house working. Some years previously he had sustained severe injuries of the head and body by a fall from aloft. He presented himself, complaining of pain in his head and limbs, but did not wish to be placed on the sick-list, as he thought it would pass off. From his appearance, however, and the state of his pulse, it was thought advisable to enter him on the list, and he was ordered a saline aperient, and directed to keep quiet. Three hours afterwards he was found lying insensible on the lower deck, his face being very much flushed, the eyes suffused, and the pupils contracted. The pulse was bounding, and the temporal arteries throbbing. There was no stertorous breathing, nor frothing from the mouth. He was discharged to the Military Hospital at Barbadoes, but never recovered consciousness, and died on the following morning.

Delirium Tremens.—There were twenty-eight cases of this disease in the squadron during the year, and of these four proved fatal. Sixteen of the cases, and one death, occurred in the Duncan, with reference to which the surgeon* says:—

"Sixteen cases of this disease were entered on the list, of whom one died and one was invalided. Several of those attacked were known to be men of quiet and sober habits, and who had been on leave only for a short period. I endeavoured to find out whether the prevalence of this disease was due to the quality of the liquor, or to any adulteration of it. I procured several samples of rum from many of the public-houses known to be frequented by the men; but, although the liquor was of the worst description, no adulteration could be detected.

"The case that proved fatal was one of the worst that ever came under my observation. He was very violent from the beginning, and although opiates were exhibited in large doses, they had little or no effect, and on the eighth day he sank from exhaustion. The case invalided

* Surgeon John Little, M. B.

invalided exhibited symptoms of incipient ramollissement and mental imbecility, and the man was sent home as being unfit for further service."

On the same subject the medical officer* of the Terror says:—

"Delirium tremens occurred twice in one subject with an interval between the attacks of six weeks, and this at the hottest season of the year. I have had frequent opportunities of observing the very pernicious effects of intoxicating drinks in these islands (Bermuda) particularly during the warm months of summer. A quantity which, in ordinary circumstances, might be taken with impunity in colder weather, and in temperate climates, here speedily brings the system to the verge of delirium tremens. So much is this the case that the disease and its allied states tend almost to an epidemic form during the hottest time of the year, and habitual imbibers who have kept up their potations many months in the year, are soon compelled to mitigate their destructive habits during the same period, generally, forsooth, to resume them on the approach of colder weather. The enervation consequent on the great heat renders the nervous system less capable of withstanding the effects of alcohol, and the imperfect combustion of hydrocarbons renders a superaddition of these to the system highly prejudicial to the whole tissues."

Of the total number affected with this degrading disease, four were commissioned officers, in one of whom the disease occurred twice; four were warrant officers; three, petty officers; two, leading seamen; six, able seamen; one, an ordinary seaman; one, a stoker; and six, marines.

Diseases of the Organs of Respiration.—There was an increase in the ratio of cases of all forms of disease coming under this head, as compared with the previous year, and this increase extended to the invaliding and death rates. One hundred and thirteen cases of inflammation of the lungs and pleura were placed under treatment, of which five were invalided, and five terminated fatally. The average duration of each case on board ship and in hospital was about nineteen days. The vessels in which the largest number of these cases occurred were the Duncan, the Galatea, the Pylades, and the Terror.

In the Duncan there were twelve cases of bronchitis, and four of pleuritis. These diseases were chiefly contracted at Halifax during the months of August and September, and are

* Dr. Alexander Crosbie.

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are attributed to the sudden change of the weather. The majority of the cases of bronchitis were of a severe character.

In the Galatea there were ten cases of bronchitis, two of pleuritis, and four of pneumonia. As in the Duncan, the majority of these cases occurred during the Michaelmas and Christmas quarters of the year, when the vessel was on the northern division of the station. Very little information is furnished with reference to these cases, but in one or two the inflammatory attack appears to have laid the foundation of tuberculous deposit.

In the Pylades there were six cases of bronchitis; three of pleuritis; and two of pneumonia. The cases of bronchitis occurred simultaneously with cases of catarrh and cynanche. They were attributable to the change experienced in passing from the southern to the northern division of the station, the cold and wet weather of the month of May at Halifax causing pulmonary affections of greater or less severity in a considerable number of the crew, although it was not found necessary to place many on the sick-list. One of the cases of bronchitis was of a phthisical character, the subject of the attack being a young officer of a delicate habit of body, who was subsequently invalided. Two of the three attacks of pleurisy occurred in one person, who, it appears, did not present himself for treatment until effusion had taken place. He was discharged to Bermuda, where he continued for many months, but subsequently recovered and returned to the ship. In the other person attacked, the disease was complicated with an affection of the liver, which is supposed to have induced the pleuritic seizure. He was subsequently invalided. Both cases of pneumonia recovered. In one, the disease was situated in the centre of the right lung, and was very limited in extent. The patient, however, was broken down with syphilitic cachexia, and convalescence was protracted. In the other case the disease affected the base of the left lung. The patient was a man of good constitution and temperate habits, and he speedily recovered.

"There were seven cases of bronchitis, and three of pleurisy, in the Terror. Two of the cases of the latter disease occurred in boys; one was a dry, recurrent, limited pleurisy of the left side, the other one of acute pleurisy on the right side, with high febrile symptoms. The third took place in a middle-aged man, a marine. He complained of catarrh, and for two or three days was treated for that affection, but dys-

pnœa

pnœa being remarked, an examination of the chest was made, and signs of pleurisy, with effusion on the right side, detected. His appetite was unaffected, he slept well, and but for a little dry cough, and evident dyspnœa, of which he himself was unconscious, might have been regarded as in his usual health.

Mumps was epidemic in Bermuda in 1865. The medical officer of the Terror says :—

"One case of allied febrile disease, parotitis contagious, and prevailing in an epidemic form, came under notice. I first observed mumps among the coloured crew of the dockyard steamer Spitfire in the latter part of August and beginning of September 1864. Gradually I recognised cases in the island of Somerset from this time, and these increased in number till the beginning of 1865, when a large proportion of the entire population was affected. It was not confined to any age or sex; the young and the old, the white and the coloured, were equally affected. Towards the end of March it had spread to some extent among the children only, of Boaz and Ireland Islands. In the instance mentioned there could be no doubt of the source of the disease. The patient was a coloured boy, serving as engineer's steward, whose parents lived at Somerset, and several of whose family had suffered from the disease, and he was in the frequent habit of visiting his parents at the time the household were suffering. I considered it expedient to send the boy at once to hospital, and to recommend the exclusion from the ship of all persons labouring under the disease, as precautionary measures to prevent the introduction and spread of the ailment."

Diseases of the Heart and Bloodvessels.—Under this head there is an increase in the ratios of cases and of invaliding as compared with the preceding year, but the death-rate is lower.

A fatal case of rheumatic endocarditis occurred in Bermuda Hospital, in the person of a young officer of the Cadmus, who was seized with symptoms of acute rheumatism at Antigua, where it appears he had been regularly bathing for some days prior to his seizure, and where it is thought he may have been exposed to chills on several occasions. The disease ran a very rapid and acute course. Three days after his admission to the sick-list, he had a severe convulsion early in the morning, but during the forenoon he felt better, although he was very restless and complained of pain in both shoulders. During the following night he was very restless, and occasionally delirious. No abnormal heart sound could then be detected. Next day, however, a bellows sound was heard. The vessel having arrived at Bermuda, it was thought

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advisable at once to remove him to hospital. The following report is furnished by the Deputy Inspector General* of that establishment:—

". . . was received at 5 p.m. of the 23rd of April from Her Majesty's ship Cadmus in a most precarious condition, suffering from endocarditis consequent on an attack of acute rheumatism. Pulse 132, sharp but weak; skin hot and dry; tongue covered with a dark fur; wandering and restless delirium, which continued until 1 p.m. of the 24th, when he died at 3.15 p.m. On examination of the body, slight adhesions were found between the pleuræ pulmonales and costales of the right side; a softened tubercle about the size of a pea was observed on the anterior surface of the centre of the lung. The left lung was healthy. The pericardium contained about six ounces of amber-coloured fluid. The heart was natural in size, the coronary veins engorged with dark blood. The cavities contained fluid blood dark in colour, also several clots of yellowish fibrine were found entangled with the columnæ carneæ, and chordæ tendineæ. The mitral valves presented a brownish red inflammatory appearance, particularly the anterior lamina, on which several minute fibrinous deposits were observed. The anterior valvular septum of Lieutaud presented also the same appearance."

A marine of the Nimble died from the bursting of a thoracic aneurism. He was placed on the sick-list on the 21st of September, suffering from pain over the right kidney, and along the course of the inguinal canal. The pain was not much increased on pressure, and there were no marked febrile symptoms. He complained of a dull pain in the right testicle, accompanied with retraction of the organ. The urine was turbid and high coloured. He had been on the sick-list previously, from the 16th to the 27th of July, for nephralgia. He was of a weakly, anæmic appearance. During the short time he was on the sick-list on this occasion, his symptoms did not vary much. Somewhat increased pain in the lumbar region was complained of, and towards evening he experienced a sense of great debility. On the morning of the third day after his admission to the sick-list, with a strong convulsive effort he suddenly sat up in bed, and then immediately fell backwards and expired. The following report of the post-mortem examination of the body is by the medical officer† of the vessel:—

"*Abdomen.*—Contents healthy, with the exception of the right kidney, which was somewhat congested. There was no alteration, however, from its healthy structure, and no increase in its size.

Thorax.

* Dr. H. J. Domville. † Dr. D. Donovan.

Thorax.—Heart normal. The cavity of the right pleura was full of arterial blood, and of clot of various degrees of consistence; altogether there appeared to be about a quart of blood. The right lung was compressed backwards against the spine. On removing the blood a sacculated aneurism, about the size of a large orange, was discovered springing from the anterior surface of the aorta, between the ninth dorsal and first lumbar vertebræ. It bulged chiefly towards the right pleura, and downwards against the right side of the diaphragm. An ulcerated opening, admitting the insertion of the index finger, was discovered at the superior and right portion of the sac, opening into the cavity of the pleura, on a level with the tenth dorsal vertebra. The inner surface of the sac was irregular, and lined with fibrous and fatty growths."

Diseases of the Alimentary Canal.—There was an increase to the extent of 18·6 per 1,000 of mean force in the ratio of cases coming under this head, as compared with the previous year. There was also an increase in the ratio of invaliding, but the death-rate was lower.

Under the head of gastritis a death appears in connection with the Rosario. It occurred in the person of an officer who had been long addicted to habits of intemperance, being usually more or less under the influence of stimulants. He had suffered a good deal, at different times during the previous ten months, from slight febrile attacks, pain in the cardiac region, palpitation, anorexia, irritability of stomach, and diarrhœa, which usually lasted two or three days, but were of such a mild nature that he was seldom incapacitated for performing his duties. Latterly these attacks had been more frequent, usually having an interval of only ten days between each. When last placed on the sick-list his symptoms were pains in the head, eyeballs, and loins; the tongue was white and flabby; the pulse quick, soft, and compressible; the bowels free, and he had frequent vomiting. The heart's impulse was weak, and a soft brûit was heard at its base. Despite every effort to combat the irritability of the stomach it continued, and vomiting was excited by almost everything that was swallowed. The vomited matter was a glairy mucilaginous-looking fluid, measuring from two to six drachms each ejection. On the day before his death the conjunctivæ were jaundiced, the eyes glazed, the pupils contracted. He had slept badly. There were nervous twitchings of the muscles around the mouth. He had difficulty in speaking and a tendency to dose. The stomach was quiet, but there was slight nausea. Nutritive enemata had been retained. On the morning of the day on which he died, the nausea and

 hiccough

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hiccough were most distressing, the latter appearing to cause him great pain. He had slight oozing of blood from the mouth and penis,—several convulsions occurred during the day, shortly after the last of which he quietly expired. The body was examined after death, when the following appearances were observed:—

"Rigor mortis; placid expression of countenance; lividity round the mouth, on the back, sides, and scrotum; external hæmorrhoids; body well nourished; a large deposition of fat on the pubis. The pericardium contained about two ounces of serum, tinged with bile. The heart was enlarged, soft, flabby, and its right side was distended with fluid blood Its walls and valves were fatty, particularly the tricuspid, and, between the columnæ carneæ of the right ventricle, there were a few hard white round bodies about the size of a coriander seed each. The arch of the aorta and the sigmoid valves were healthy. The vena cava was distended with blood. The stomach was half full of a dark sanguineous fluid, and it, as well as the duodenum and small intestines, were highly congested and inflamed, and there were two portions of the latter, each about two and a half inches long, white and softened. The liver was anæmic, the gall-bladder distended, and the urinary bladder contained some blood and coagula."

There was one case of dysentery and 114 of diarrhœa in the Aurora. The prevalence of the latter affection is said at one time to have been attributable to the water obtained from the shore at Barbadoes, and at another to the variable character of the weather. The cases do not appear to have been of much importance. They were tolerably equally spread over the three last quarters of the year.

In the Cadmus there were forty-five cases of diarrhœa. They were, generally speaking, very mild and tractable. The disease is referred to a high temperature, the season when the cases were most numerous being that in which the heat was greatest. Two somewhat urgent cases occurred in the Christmas quarter of the year. The persons affected were two men belonging to the same mess, who were suddenly seized during the night with violent vomiting and purging, great pain in the stomach and bowels, and cramps in the extremities. These symptoms were, however, of short duration, being speedily subdued by the remedies employed. The men denied having partaken of anything other than the ordinary ship diet.

There was a single case of dysentery and twenty-nine of diarrhœa in the Fawn. The majority of the cases of diarrhœa occurred

occurred at the commencement of the hot sultry weather in May, the disease, the Surgeon* says, being

"characterised by a strong tendency to collapse in the more severe cases. The diarrhœa was profuse, generally painless, but easily checked by putting the patient in bed and giving some warm cordial and astringent. The provisions were carefully examined, to see if in any way they might be the cause of the sickness, but they were found to be quite wholesome. The fresh beef was of excellent quality and newly killed, and the bread was also very good. Nothing was bought alongside from the bumboats. The water, condensed, was found on chemical examination to contain a small quantity of salt, but so trifling a quantity that it was scarcely appreciable to the taste, and there was much difference of opinion among many tasters whether it was salt or not. It was found that one of the condensers leaked, and admitted a little salt water. The water made by it was condemned for drinking purposes, and only issued for washing. The prevalence of diarrhœa was not attributed to the saline state of the water, but mainly to the sultry unwholesome weather, the damp state of the decks, and the frequent wetting of the crew by the rains."

The case of dysentery that occurred in this vessel was a mild one, and is attributed to a chill received after violent exercise during the inspection of the ship on the 20th of June. The man was fourteen days under treatment.

Diarrhœa of a very urgent character is liable to happen as a result of fish-poisoning at Nassau. Four cases of this kind were placed on the sick-list of the Fawn, but a good many more men were affected, although not to such a degree as to incapacitate them for duty. With reference to cases arising from this cause, the Surgeon says:—

"A great variety of fish is generally caught by the crews of vessels stationed at Nassau. Some of these fish, at certain times of the year, are very unwholesome, and, when eaten, give rise to severe purging, vomiting, and cramps. During our stay, four men belonging to a coasting vessel were poisoned, one of whom died from eating part of a large barracouta which they had caught. This fish, when large, is said to be very unsafe food, and great risk is run in eating it. The one which gave rise to fatal results in this instance, was upwards of five feet in length. A negro was also reported to have died from eating poisonous fish, but of what kind was not ascertained.

"Ten cases of fish poisoning occurred on board on the 10th of June, four of which it was necessary to place on the sick-list. All four of them, young gentlemen of the gun-room mess, had partaken of a cavalle of about six or seven pounds' weight, for breakfast. It was

* Surgeon Charles Morton.

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was caught about midnight, was quite fresh, but not sufficiently cooked, and on that account was but sparingly eaten by the gun-room officers, who first partook of it. The gun-room steward and cook, however, having re-cooked it, shared it with the ship's corporal and others, all of whom were more or less affected. The symptoms varied a good deal in kind and intensity. In the case of the cook (a negro) the spasms of the stomach, and cramps of the muscles of the legs, and even of the body, were very severe. He had eaten more of the fish than the others, did not vomit, and was not purged until after the disappearance of the cramps. In two others, the most prominent symptoms were swelling of the face, which was mottled with red patches; a peculiar tingling of the throat, tongue and fingers, which lasted slightly for two days; purging and vomiting, with spasms in the stomach, more or less severe, were present in all excepting the first-mentioned case, and accompanied the other symptoms. The symptoms showed themselves about an hour after the fish was eaten. In the worst case, that of the cook, it was impossible to give him anything for nearly three-quarters of an hour after he was seized with the spasms, on account of his struggles with the men who were holding him, to prevent him hurting himself as he rolled about the deck, kicking and screaming. Negro-like, he exaggerated a good deal, in all probability, and made more of the spasms than there was any occasion for. In the others, the treatment consisted in the use of diluents to encourage vomiting, in which small doses of carbonate of ammonia were given, and subsequently, when required, an opiate was administered.

"The fishermen state that these fish are only poisonous when caught in the harbour, or close to the shore, at certain times of the year, and especially if they are of large size; and they attribute their poisonous qualities to their feeding on the seaweeds which grow on the copper of ships' bottoms. Whatever the cause may be, whether the fish are unwholesome because it is their spawning season, or from their feeding on some poisonous weed or animal, there is no doubt that dangerous symptoms may arise from eating them. If a whole ship's company had eaten freely of fish, such as poisoned the young gentlemen and others, as above mentioned, the consequences might have been very serious indeed."

In Table IV., under Dysentery, a death appears in connection with the Buzzard. The case, however, was a somewhat singular one, and presented very few of the symptoms of dysentery during life, nor were the pathological appearances on post-mortem examination characteristic of that disease. The disease proved fatal within twenty-four hours. It occurred in the person of a petty officer of a plethoric habit of body and sanguineous temperament, who was suddenly seized at 11 a. m. of the 26th of June, when the vessel was lying at anchor in the harbour of Castries, St. Lucia, with vomiting,

vomiting, purging, abdominal cramps, and debility, attended by slight febrile excitement. A dose of castor oil with forty minims of laudanum was at once administered, and immediately rejected by the stomach; sinapisms were applied to the abdomen; subsequently he had an effervescing draught, and one grain of opium was given every second hour. At 3 p. m. the vomiting had ceased and he had less griping, but the diarrhœa continued, the stools occurring every half hour, attended with much flatus; the tongue was flaccid, moist, and of a yellowish brown hue. At 6 p. m. he was discovered in the "head" in an extreme state of prostration, which came on suddenly while evacuating, and rapidly reached its acme. He complained of excessive thirst, of depression of spirits, nausea, distressing flatulence, and an increase of the diarrhœa. His pulse was very feeble, and could scarcely be counted; the whole surface of the body was covered with a cold sweat; there was a most anxious expression of countenance, with sunken eyeballs; no abdominal cramps—vomiting of all ingesta, and suppression of urine. The stools, which at first were mucous, had rapidly passed to watery discharges, in which floated particles of coagulable lymph; and were accompanied with discharges of blood; there were no hæmorrhoids; the blood was fluid, florid, and distinct from the other matters passed. The case, it is said, seemed to have assumed a form between cholera on the one hand and diarrhœa on the other. There were no chills alternating with increased heat, nor any other febrile symptoms observable. He was immediately placed in a cot, rubbed with hot flannels, and warm brandy-and-water administered. Diaphoresis soon came on, and the patient felt relieved, but the pulse continued excessively weak and thready. The report of the Surgeon of the Buzzard continues:—

"9 p. m.—Passing blood per anum every half hour, expelling at the same time large quantities of flatus. Still free from pain—no abdominal tenderness; excessively restless; trunk and lower extremities very hot, and the upper extremities moistened with a cold sweat, whilst the superficial veins seemed to be deprived of blood; in fact, he presents the appearance of a person suffering from malignant cholera. Is conscious, and complains of excessive distension of stomach and abdomen; is almost pulseless; no vomiting.

"Two ounces of brandy, one ounce of water, and half an ounce cayenne pepper immediately. This was immediately rejected, and with it almost half a gallon of liquid, apparently what had been swallowed in the two previous hours and never been absorbed.

170. "10 p.m.

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"10 p. m.—Vomiting has again ceased—thirst excessive; feels drowsy and dozes, but awakes with a sudden start, and sanguineous evacuations continue. Midnight.—Sinking fast, despite the various stimulants administered; is now using the bed-pan every five minutes; still warm about the trunk and lower extremities; arms cold and damp.

"At 4 a. m. of the 27th, delirium came on, accompanied with constant discharge from the stomach and bowels, and at 5·30 a. m. he suddenly expired."

On post-mortem examination of the body, the following appearances were observed:—

"The whole body was warm and excessively rigid. Great ecchymosis existed about the head and neck only, and a sero-sanguineous fluid was exuding from the mouth and nostrils; there was no yellowness of the conjunctivæ nor of the general surface. On opening and examining the abdominal cavity, the omentum was found drawn up to the arch of the colon. The whole of the intestines, from the pylorus to the sigmoid flexure of the colon were of a bright pink colour, injected with blood, and were distended with flatus and an abundant sero-sanguinious fluid which had partially filled the stomach, and exuded freely from the mouth on pressure being applied to the abdomen. There were no contractions of the colon and no adhesion of the peritoneal surface of it to the adjoining parts, but there was a slight serous effusion into the peritoneal cavity. None of the intestinal contents had passed through any opening in the peritoneum, although it was inflamed. The spleen and liver were healthy and of their natural size, but the gall-bladder was distended almost to bursting. The urinary bladder was perfectly empty. The contents of the thorax were healthy. The head was not examined."

The Surgeon remarks, that the town of Castries was at the time very healthy, the only prevailing disease being hooping-cough; and adds, that had the patient been seized with the symptoms which carried him off, on his return from leave, or had he partaken of fish, he should have considered the case as one of poisoning. It certainly much more resembled a case of poisoning than of dysentery.

There was a fatal case of what is called choleraic diarrhœa in the Duncan. It occurred in the person of a young man of a very delicate habit of body, although apparently healthy looking. His symptoms, at first, were violent cholicky pains and vomiting. These were followed by general pains over the anterior abdominal region. The tongue became red round

round the edges, and creamy white in the centre. The bowels were freely moved, the stools being rather deficient in bile. On the fifth day after his admission to the sick-list, he began suddenly to sink, and died on the morning of the seventh day. In some particulars the case was more like one of enteric fever.

Diseases of the Genito-Urinary Organs.—There was a slight increase of the ratios under this head, as compared with the previous year. Of syphilis, 277 cases, altogether, were under treatment in the squadron, which is in the ratio of 53·4 per 1,000 of mean force. In 1864 the ratio was 52·4.

In the Aurora there were forty-seven cases of primary and thirteen of secondary syphilis. Twenty-nine of the cases which appear in the return for the first quarter of the year were of English origin, the vessel being a short time in that quarter at Portsmouth. The other cases had their origin at Barbadoes, Jamaica, and Halifax.

There were twelve cases of primary and twelve of secondary syphilis in the Fawn, the Surgeon of which says, with reference to them :—

"The prevalence of venereal disease, and more especially of secondary syphilis, is to be noted. Of primary syphilis there are twelve entries on the sick-list, but in reality there were only eleven cases, as one was returned twice, having been prematurely discharged. Four of these were treated in hospital, and seven were discharged to duty on board. Four of the cases occurred in boys, three of whom concealed their complaint for weeks. In all, there was extensive induration, and secondary eruptions were appearing on the skin when they presented themselves for treatment. They were treated in hospital for both the primary and secondary affections.

"Of secondary syphilis there are twelve entries, but, as one boy was entered four times and another three times for the same complaint, the actual number affected was only seven. Of these, three had not been on the sick-list with primary syphilis, and one had been treated for a suppurating sore and bubo fifteen months previous to his re-admission, with large condylomata around the anus. In five of seven cases the affection appeared in the form of condyloma and mucous papules about the anus and scrotum. Six were sent to hospital for treatment, and one, who joined the ship when commissioned, suffering from secondary syphilis, and who was for a long time under treatment in hospital without benefit, was invalided. Since the occurrence

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occurrence of so much venereal disease among the boys, leave has not been granted them overnight, and they are now only allowed to go on shore in the daytime, and under the charge of a ship's corporal, or other responsible petty officer.

It is painful to see so many young people suffering from constitutional syphilis, and to reflect how many of their lives will in consequence be shortened and made permanently miserable; how often their names will appear on the sick-lists of different ships, at last to be invalided from the service, themselves, and perhaps their children, a burden on the State. It is to be hoped that the measures about to be adopted by the Government for the prevention of syphilis in our garrison and seaport towns will be attended with benefit. The sanitary state, as regards syphilis, of some of the ports at which ships are constantly stationed, such as Port Royal and Kingston, Jamaica, is also worthy their consideration. Something also might be done on board ship. Although there may be objections, on the score of indelicacy, to the personal examination of the crew after they have been exposed to the contagion of syphilis, still I think if the system of inspection were adopted it would prove of great advantage in preventing or mitigating some of the more serious results which almost invariably follow the concealment of this disease. The objections are completely outweighed by the advantages which would accrue from its adoption. If boys are allowed to visit without restraint the haunts of filth and profligacy, and do so, as I am afraid is too certain, judging from recent experience, it is absolutely necessary in their case, that, for their own sakes, and also for the interests of the service, inspection should take place. That such inspections have a demoralizing tendency is perhaps, to a certain extent, true in a general sense; but here we have a special case to be dealt with, that of men mostly of an age when the passions are strongest; from the nature of their profession, enforced celibates; characteristically careless of consequences; and, on shore, generally dissipated. To apply any general rules to the case of men so exceptionally situated is absurd.

"A periodical fortnightly examination would perhaps be less distasteful to the men than one made only after return from leave, making it have more the appearance of a general sanitary measure which might relate to other diseases as well as the one chiefly feared."

Rheumatism.—There was a trifling reduction in the ratio of cases of this disease as compared with the preceding year, and an increase in the ratio of invaliding. No mortality was occasioned by it.

Wounds and Injuries.—A boy died from the effects of internal injuries sustained by falling from aloft; four men were killed in action; two men sustained fatal fracture of the skull by falling from aloft. One man who was run over by a truck, died from the effects of ruptured liver and intestines;

tines; and a man died from ruptured kidney and intestines consequent upon a fall from aloft. A man sustained fatal concussion of the spinal cord by falling from aloft; and a death occurred from fracture of the pelvis consequent upon falling from aloft.

Twelve men were drowned; six of these fell overboard accidentally; one fell off a breakwater; one was carried away by the current in attempting to ford a river on horseback; one man was drowned while bathing; one was found drowned on the beach; a man who when last seen alive was intoxicated, was found drowned in shallow water; and a man was drowned, but under what circumstances is not stated.

A seaman committed suicide by shooting himself through the body with a revolver.

A young officer was asphyxiated by the impaction of food in the larynx. The circumstances under which this occurred were of a somewhat unusual character. He was suffering from toothache, and in the forenoon a small piece of solid opium, weighing about a grain, was applied to the painful part, the tooth being so decayed that no grasp for a tooth instrument, in order to extract it, could be obtained. In the afternoon, at 2 p.m., he again applied for relief, when a small piece of cotton wadding, moistened with four or five minims of chloroform, was applied to the remains of the carious tooth, after which the patient stood for about ten minutes, and then taking a chair, rested his elbow upon a table, and sat with his head resting on his hand. In this position he remained nearly two hours, speaking rationally from time to time to those in the sick-bay. At the end of that period he became sick, and vomited a large quantity of partially digested food, consisting of beef and potatoes. While vomiting he suddenly turned half round in his chair; tracheal râle was heard during a single inspiration; his head had to be supported, and respiration and circulation ceased almost instantaneously, and without any apparent struggle.

The finger was at once placed in his mouth, and the tip carried to the opening of the glottis, but nothing was found there. In the mouth there was some half-digested food, which was cleared away, and the cotton was removed from the tooth at the same time; diffusible stimuli were applied to the nares; the patient was placed on the floor in the prone

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position, and Sylvester's and Marshall Hall's method of restoring suspended animation tried, while a hot bath and sinapisms were being prepared. When the bath was ready he was placed in it, cold water being dashed on the face. After a short time he was removed, dried, and enveloped in blankets. Sinapisms were applied to the calves of the legs, and artificial respiration and diffusible stimuli were again resorted to. Electro-magnetism was then tried without producing any effect; and, finally, after carrying on artificial respiration for two hours without any sign of returning animation, further efforts were considered unnecessary and hopeless. The following report of the post-mortem examination of the body is by the surgeon* of the ship, from whose journal also the previous narrative is taken:—

"Face pale, pupils dilated, much discoloration of the surface all over the trunk and extremities, both in front and behind. Body rigid.

"An incision was made from the symphysis menti to the symphysis pubis, the sternum and costal cartilages were removed. During this proceeding some of the large veins of the neck were wounded, and a large quantity of dark fluid blood escaped. The heart was healthy and contracted. The ventricles were empty. The lungs were healthy, slightly congested at the base and posteriorly.

"On opening the larynx, trachea, and bronchi, a large quantity of half-digested food, consisting of beef and potatoes, was found, completely blocking up the air passages from the fifth ring of the trachea to the bifurcation of the bronchi.

"As these appearances fully accounted for the patient's sudden death, no further investigation was made."

The total number of deaths was sixty-five, which is in the ratio of 12·5 per 1000 of mean force, being 3·3 below the death-rate of the preceding year. The death-rate from disease alone was 7·7 per 1000. The ratio of mortality from disease in 1864 was 12·4 per 1000.

Invalided.—Three men were invalided for the sequelæ of fever; sixteen for diseases of the brain and nervous system, nine of whom were epileptic; thirty-four for diseases of the organs of respiration, twenty-six of whom were consumptive; sixteen for diseases of the heart and bloodvessels; eight for diseases

* Surgeon Thomas G. Wilson.

diseases of the alimentary canal; six for disease of the liver; sixteen for diseases of the genito-urinary organs, mostly venereal; twelve for rheumatism; five for diseases of the special senses; ten for diseases of the skin and cellular tissue; twenty for diseases not classed; ten for wounds and injuries of various kinds; and eleven for hernia; making the total number invalided 167, which is in the ratio of 32·2 per 1000 of mean force, being an increase, compared with the preceding year, equal to 7·5 per 1000.

TABLE, No. 1.

SHOWING the Number of CASES of all DISEASES and INJURIES, and the Number INVALIDED and DEAD, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Continued and Remittent Fever	909	175·4	2	·3	3	·5
Yellow Fever	11	2·1	-	-	3	·5
Intermittent Fever	131	25·2	1	·1	—	—
Small Pox	3	·5	—	—	—	—
Measles	1	·1	—	—	—	—
Disease of the Brain	2	·3	—	—	—	—
Apoplexy	6	1·1	-	-	3	·5
Epilepsy	14	2·7	9	1·7	—	—
Paralysis	7	1·3	3	·5	—	—
Insanity	5	·9	3	·5	—	—
Delirium Tremens	28	5·4	-	-	4	·7
Neuralgia	19	3·6	1	·1	—	—
Vertigo	7	1·3	—	—	—	—
Inflammation of the Lungs and Pleura	113	21·8	5	·9	5	·9
Phthisis and Hæmoptysis	39	7·5	26	5·	11	2·1
Influenza and Catarrh	558	107·7	1	·1	—	—
Cynanche	192	37·	—	—	—	—
Asthma	3	·5	2	·3	—	—
Disease of the Heart, Functional and Organic	57	11·	10	1·9	1	·1
Hæmorrhoids	26	5·	3	·5	—	—
Varix	7	1·3	3	·5	—	—
Aneurism	2	·3	-	-	1	·1
Disease of the Stomach and Bowels	7	1·3	3	·5	1	·1
Dysentery	25	4·8	2	·3	1	·1
Diarrhœa	681	131·4	3	·5	1	·1
Cholera	2	·3	—	—	—	—
Constipation and Colic	117	22·5	—	—	—	—
Disease of the Liver	21	4·	6	1·1	—	—
Jaundice	5	·9	—	—	—	—

TABLE, No. 1.—Showing the Number of Cases of all Diseases, &c.—*continued.*

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	10	1·9	2	·3	1	·1
Syphilis	277	53·4	9	1·7	—	—
Gonorrhœa	79	15·2	—	—	—	—
Orchitis	90	17·3	1	·1	—	—
Stricture	26	5·	4	·7	—	—
Incontinence of Urine, &c.	6	1·1	—	—	—	—
Rheumatism	415	80·1	12	2·3	—	—
Gout	2	·3	—	—	—	—
Disease of the Bones and Joints	29	5·5	—	—	—	—
Inflammation of the Eyes	57	11·	—	—	—	—
Amaurosis and Cataract	6	1·1	4	·7	—	—
Otitis and Deafness	20	3·8	1	·1	—	—
Erysipelas	15	2·8	—	—	—	—
Scrofula	9	1·7	2	·3	—	—
Bubo (*Symp.*)	88	16·9	2	·3	—	—
Phlegmon and Abscess	1,919	370·4	-	-	2	·3
Ulcer	584	112·7	6	1·1	—	—
Psora	6	1·1	—	—	—	—
Eruptions, &c.	84	16·2	—	—	—	—
Dyspepsia and Debility	275	53·	18	3·4	—	—
Dropsy	21	4·	1	·1	3	·5
Worms	4	·7	—	—	—	—
Headache	68	13·1	1	·1	—	—
Wounds and Injuries	1,558	300·7	10	1·9	11	2·1
Burns and Scalds	84	16·2	—	—	—	—
Hernia	20	3·8	11	2·1	—	—
Drowned	-	-	-	-	12	2·3
Poisoning	6	1·1	—	—	—	—
Asphyxia	1	·1	-	-	1	·1
Suicide	-	-	-	-	1	·1
Submersion	2	·3	—	—	—	—
TOTAL	8,759	1690·9	167	32·2	65	12·5

TABLE, No. 2.

SHOWING the Number of DAYS' SICKNESS from each DISEASE, and from INJURIES, the Average Number of Men Sick Daily, with the Ratio per 1,000 of Force.

DISEASE OR INJURY,	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Continued and Remittent Fever	6,497	2,151	8,648	23·6	4·5
Yellow Fever	92	-	92	·2	—
Intermittent Fever	1,593	490	2,083	5·7	1·1
Small Pox	31	82	113	·3	—
Measles	12	-	12	—	—
Disease of the Brain	2	9	11	—	—
Apoplexy	61	59	120	·3	—
Epilepsy	165	62	227	·6	·1
Paralysis	164	88	252	·6	·1
Insanity	160	-	160	·4	—
Delirium Tremens	260	46	306	·8	·1
Neuralgia	107	8	115	·3	—
Vertigo	24	-	24	—	—
Inflammation of the Lungs and Pleura	1,492	648	2,140	5·8	1·1
Phthisis and Hæmoptysis	782	150	932	2·5	·4
Influenza and Catarrh	3,228	59	3,287	9·	1·7
Cynanche	1,134	79	1,213	3·3	·6
Asthma	27	-	27	—	—
Disease of the Heart, Functional and Organic	674	424	1,098	·3·	·5
Hæmorrhoids	267	146	413	1·1	·2
Varix	55	-	55	·1	—
Aneurism	8	62	70	·1	—
Disease of the Stomach and Bowels	99	107	206	·5	—
Dysentery	320	204	524	1·4	·2
Diarrhœa	3,472	360	3,832	10·4	2·
Cholera	29	-	29	—	—
Constipation and Colic	474	57	531	1·4	·2
Disease of the Liver	383	264	647	1·7	·3
Jaundice	83	-	83	·2	—

Table, No. 2.—Showing the Number of Days' Sickness from each Disease, &c.—*cont^d.*

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	204	56	260	·7	·1
Syphilis	6,072	4,265	10,337	28·3	5·4
Gonorrhœa	1,524	172	1,696	4·6	·8
Orchitis	1,174	334	1,508	4·1	·7
Stricture	502	381	883	2·4	·4
Incontinence of Urine, &c.	56	62	118	·3	—
Rheumatism	4,917	1,471	6,388	17·5	3·3
Gout	57	-	57	·1	—
Disease of the Bones and Joints	550	153	703	1·9	·3
Inflammation of the Eyes	928	244	1,172	3·2	·6
Amaurosis and Cataract	153	108	261	·7	·1
Otitis and Deafness	247	-	247	·6	·1
Erysipelas	212	54	266	·7	·1
Scrofula	299	372	671	1·8	·3
Bubo (*Symp.*)	1,787	84	1,871	5·1	·9
Phlegmon and Abscess	14,994	504	15,498	42·4	8·1
Ulcer	9,834	2,057	11,891	32·5	6·2
Psora	97	-	97	·2	—
Eruptions, &c.	874	153	1,027	2·8	·5
Dyspepsia and Debility	1,957	403	2,360	6·4	1·2
Dropsy	217	78	295	·8	·1
Worms	30	-	30	—	—
Headache	499	39	538	1·4	·2
Wounds and Injuries	14,761	1,571	16,332	44·7	8·6
Burns and Scalds	958	-	958	2·6	·5
Hernia	334	-	334	·9	·1
Poison	31	-	31	—	—
Asphyxia	1	-	1	—	—
Submersion	6	-	6	—	—
TOTAL	84,970	18,116	103,086	282·4	54·5

TABLE, No. 3.

SHOWING the Number INVALIDED from each Ship employed

CAUSE of INVALIDING.	Aboukir.	Aurora.	Bulldog.	Buzzard.	Cadmus.	Cordelia.	Cygnet.	Duncan.	Fawn.	Galatea.
Continued and Remittent Fever	–	–	–	–	1	–	–	–	–	–
Intermittent Fever	1	–	–	–	–	–	–	–	–	–
Insanity	–	–	–	–	–	–	–	–	–	–
Epilepsy	1	2	–	–	–	1	–	1	–	–
Paralysis	–	–	–	–	–	–	–	1	–	–
Neuralgia	–	–	1	–	–	–	–	–	–	–
Inflammation of the Lungs and Pleura	1	–	–	–	–	1	–	1	–	–
Phthisis and Hæmoptysis	4	1	2	1	1	–	3	1	2	4
Catarrh	–	–	–	–	–	–	–	1	–	–
Asthma	–	2	–	–	–	–	–	–	–	–
Disease of the Heart, Functional	–	1	1	–	–	–	2	–	–	2
Hæmorrhoids	1	–	–	–	1	–	1	–	–	–
Varix	–	–	–	–	–	–	–	–	–	–
Inflammation of the Stomach and Bowels	–	–	–	–	1	–	–	–	–	–
Dysentery	–	–	–	–	–	1	–	–	–	–
Diarrhœa	–	–	–	–	–	–	–	–	–	–
Disease of the Liver	–	–	1	–	–	–	1	1	–	1
Inflammation of the Kidneys and Bladder	–	–	–	–	1	–	–	–	–	–
Syphilis	–	3	1	1	–	–	–	1	1	–
Orchitis	–	1	–	–	–	–	–	–	–	–
Stricture	–	1	–	–	–	–	–	–	–	2
Rheumatism	1	4	–	–	–	2	–	1	–	–
Amaurosis and Cataract	–	2	–	–	–	–	–	1	–	1
Otitis and Deafness	–	–	–	–	–	–	–	–	–	–
Bubo (*Symp.*)	1	–	–	–	–	1	–	–	–	–
Scrofula	–	1	–	–	–	–	–	–	–	–
Ulcer	–	–	–	–	–	–	–	–	3	1
Dyspepsia and Debility	2	2	–	1	–	–	3	3	1	1
Headache, &c.	–	–	–	–	–	–	–	–	1	–
Dropsy	–	–	–	–	–	–	–	–	–	–
Wounds	–	1	–	–	–	–	–	3	–	1
Hernia	–	1	–	1	–	–	–	1	–	1
TOTAL	12	22	6	4	5	6	10	16	8	14

a 1 Gastritis and 1 malignant disease of Stomach.

Table, No. 8.

on the North American and West Indian Station.

Gannet.	Lily.	Niger.	Peterel.	Pylades.	Rosario.	Royalist.	Shannon.	Sphinx.	Steady.	Styx.	Terror.	Wolverene.	Total.
–	–	–	–	–	–	–	–	–	–	–	–	1	2
–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	1	–	–	1	–	–	–	–	–	–	–	1	3
1	–	–	–	1	1	–	–	–	–	–	1	–	9
–	–	1	–	–	–	–	–	–	–	–	–	1	3
–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	1	–	–	–	–	–	–	1	–	5
–	–	1	–	3	1	–	1	–	1	–	–	–	26
–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	–	–	–	–	2
–	–	–	–	–	2	–	–	–	–	1	–	1	10
–	–	–	–	–	–	–	–	–	–	–	–	–	3
–	–	1	–	–	1	–	–	–	–	–	–	1	3
–	–	–	–	–	–	–	–	–	*a*2	–	–	–	3
–	–	–	–	1	–	–	–	–	–	–	–	–	2
–	–	1	–	–	–	1	–	–	–	–	–	1	3
–	–	–	1	–	–	–	–	–	–	–	–	1	6
–	–	–	–	–	1	–	–	–	–	–	–	–	2
–	–	1	–	–	–	–	–	–	1	–	–	–	9
–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	1	–	–	–	–	–	–	–	4
–	–	2	–	2	–	–	–	–	–	–	–	–	12
–	–	–	–	–	–	–	–	–	–	–	–	–	4
1	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	–	–	–	–	2
–	–	–	–	1	–	–	–	–	–	–	–	–	2
–	–	1	1	–	–	–	–	–	–	–	–	–	6
–	–	1	–	2	–	–	–	–	–	–	1	1	18
–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	1	–	–	–	1
–	–	–	–	1	–	–	1	–	–	–	1	2	10
–	–	1	–	2	–	–	–	1	1	–	–	2	11
2	1	10	2	15	7	1	2	1	6	1	4	12	167

TABLE, No. 4. - - - - - - - -

SHOWING the Number of DEATHS in each Ship employed - -

CAUSE OF DEATH.	Aboukir.	Aurora.	Bulldog.	Buzzard.	Cadmus.	Cordelia.	Duncan.	Fawn.	Galatea.
Continued and Remittent Fever -	–	1	1	–	–	–	–	–	–
Yellow Fever - - - - -	–	–	3	–	–	–	–	–	–
Apoplexy - - - - - -	–	–	–	1	–	–	–	–	–
Delirium Tremens - - - -	–	–	–	–	–	–	1	1	–
Insolation - - - - -	1	–	–	–	–	–	–	–	–
Inflammation of the Lungs and Pleura - - - - -	–	1	1	–	–	–	1	–	–
Phthisis - - - - -	2	–	–	–	–	–	3	1	1
Disease of the Heart - - -	–	–	–	–	*a* 1	–	–	–	–
Aneurism - - - - -	–	–	–	–	–	–	–	–	–
Gastritis - - - - -	–	–	–	–	–	–	–	–	–
Diarrhœa - - - - -	–	–	–	–	–	–	1	–	–
Dysentery - - - - -	–	–	–	1	–	–	–	–	–
Nephritis - - - - -	–	–	–	–	–	–	–	–	1
Phlegmon and Abscess - - -	–	–	–	–	–	–	–	–	*b* 1
Dropsy - - - - - -	–	–	–	1	–	–	–	–	1
Wounds and Injuries - - -	–	1	4	–	–	–	3	–	–
Drowned - - - - -	–	3	–	–	–	1	–	–	1
Suicide - - - - - -	–	–	–	–	–	–	–	–	–
Asphyxia - - - - - -	–	–	–	–	–	–	–	–	*a* 1
TOTAL - - -	3	6	9	3	1	1	9	2	6

a Rheumatic Endocarditis.

b Lumbar Abscess.

TABLE, No. 4.

on the NORTH AMERICAN and WEST INDIAN STATION.

Gannet.	Lily.	Medea.	Niger.	Nimble.	Pylades.	Rosario.	Royalist.	Shannon.	Steady.	Styx.	Terror.	Wolverene.	TOTAL.
–	1	–	–	–	–	–	–	–	–	–	–	–	3
–	–	–	–	–	–	–	–	–	–	–	–	–	3
1	–	–	–	–	–	–	–	–	–	–	–	–	2
–	–	1	–	–	1	–	–	–	–	–	–	–	4
–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	1	–	–	1	–	–	–	–	–	–	–	5
–	–	1	–	–	1	1	–	–	–	–	1	–	11
–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	1	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	1	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	*b* 1	–	–	–	–	–	–	–	–	–	–	–	2
–	–	–	1	–	–	–	–	–	–	–	–	–	3
–	–	–	1	–	–	1	1	–	–	–	–	–	11
–	–	–	–	2	–	–	–	1	1	–	2	1	12
–	–	–	–	–	–	–	–	–	–	1	–	–	1
–	–	–	–	–	–	–	–	–	–	–	–	–	1
1	2	3	2	3	3	3	1	1	1	1	3	1	65

c By impaction of food in trachea.

TABLE, No. 5.

SHOWING the Names of the SHIPS; the Average Complements, &c.; the Number of Men Sick Daily, in each Ship;

C. Commissioned.

Rates, &c.	NAMES of SHIPS.	Where Commissioned.	When Commissioned.	Number of Guns.	Tonnage.	Horse Power.
Second Rate	Duncan	Portsmouth	7 Jan. 1864	81	3,727	S. 800
Fourth Rate	Aurora	Devonport	18 Nov. 1863	35	2,558	S. 400
	Galatea	Devonport	16 May 1862	26	3,227	S. 800
	Shannon P. O.	Portsmouth	17 Jan. 1862	35	2,667	S. 600
Sixth Rate	Cadmus C.	Chatham	15 Dec. 1864	21	1,466	S. 400
	Niger C.	Woolwich	3 Feb. 1865	13	1,072	S. 350
	Pylades	Chatham	4 Dec. 1862	21	1,278	S. 350
	Wolverene	Woolwich	8 May 1864	21	1,703	S. 400
Sloop	Bulldog	Portsmouth	14 Mar. 1864	6	1,124	P. 500
	Buzzard	Devonport	27 Jan. 1863	6	980	P. 300
	Cordelia	Devonport	23 June 1864	11	579	S. 150
	Fawn	Sheerness	20 June 1864	17	751	S. 100
	Gannet C.	Devonport	3 July 1865	3	579	S. 150
	Medea P. O.	Portsmouth	17 Sept. 1861	6	835	P. 350
	Peterel P. O.	Devonport	23 Feb. 1862	11	669	S. 150
	Rosario	Sheerness	23 June 1862	11	673	S. 150
	Royalist	Devonport	5 Nov. 1863	11	669	S. 150
	Sphinx C.	Devonport	2 May 1865	6	1,061	P. 500
	Styx P. O.	Devonport	3 Mar. 1862	6	1,057	P. 280
Gun Vessel	Cygnet	Halifax	19 Oct. 1864	5	428	S. 80
	Lily	Sheerness	11 Nov. 1862	4	702	S. 200
	Nimble	Halifax	1 Jan. 1865	5	428	S. 80
	Steady	Halifax	26 Oct. 1864	5	431	S. 80
Receiving Ship	Aboukir	Jamaica	26 Aug. 1862	86	3,091	S. 400
Floating Battery and Dockyard	Terror	Bermuda	1 Jan. 1865	16	1,971	S. 200

TABLE, No. 5.

Cases; the Total Number of Days' Sickness on Board; the Average Number of and the Number Discharged to Hospital.

P. O. Paid off.

Period.	Average Complements.	Average Complements corrected for Time.	Number of Cases of Disease and Injury.	Number of Days' Sickness on Board.	Average Number of Men Sick Daily for 12 Months.	Ratio per 1,000 of Average Force of each Ship.	Number discharged to Hospital.
Year - -	980	980	1,087	11,711	32·	32·6	10
Year - -	535	535	1,083	11,635	31·8	59·4	28
Year - -	490	490	797	8,799	24·1	49·1	43
1 Jan. to 11 Apr.	445	130	110	1,568	4·2	32·3	20
1 Apr. to 31 Dec.	275	205	430	5,980	16·3	79·5	26
1 Apr. to 31 Dec.	180	135	387	3,831	10·4	77·	24
Year - -	275	275	399	5,288	14·4	52·3	22
Year - -	280	280	600	5,724	15·6	55·7	53
Year - -	160	160	385	3,901	10·6	66·2	13
Year - -	170	170	319	2,579	7·	41·1	15
Year - -	130	130	303	1,781	4·8	36·9	26
Year - -	175	175	315	2,468	6·7	38·2	23
20 July to 31 Dec.	115	50	106	840	2·3	46·	9
1 Jan. to 22 June	145	70	87	835	2·2	31·4	5
1 Jan. to 31 Aug.	130	85	127	1,149	3·1	36·4	6
Year - -	130	130	300	2,326	6·3	48·4	30
Year - -	130	130	136	1,603	4·3	33·	2
1 Oct. to 31 Dec.	180	45	179	1,653	4·5	100·	8
1 Jan. to 25 Oct.	165	135	249	2,243	6·1	45·1	11
Year - -	80	80	180	2,423	6·6	82·5	6
Year - -	100	100	268	2,060	5·6	56·	55
Year - -	75	75	138	1,081	2·9	38·6	18
Year - -	75	75	153	1,620	4·4	58·6	17
Year - -	250	250	329	2,880	7·8	31·2	56
Year - -	290	290	292	1,456	3·9	13·4	61

TABLE, No. 6.

SHOWING the Number of CASES of all DISEASES and INJURIES in each

CAUSE OF DEATH.	Aboukir.	Aurora.	Bulldog.	Buzzard.	Cadmus.	Cordelia.	Cygnet.	Duncan.	Fawn.	Galatea.	Gannet.
Continued and Remittent Fever	82	44	99	5	58	45	2	118	12	18	1
Intermittent Fever	3	16	-	-	4	8	38	7	1	-	-
Yellow Fever	-	-	8	-	-	-	-	-	-	-	-
Small Pox	-	1	-	-	-	-	-	-	-	-	-
Measles	-	-	-	-	-	-	-	-	-	-	-
Disease of the Brain	-	-	-	1	-	-	-	-	-	-	-
Apoplexy	a3	-	-	-	-	-	-	a1	-	-	1
Epilepsy	1	2	1	-	1	1	-	1	-	-	2
Paralysis	1	1	-	-	-	-	-	-	-	-	-
Insanity	-	-	-	1	-	-	-	-	-	-	-
Delirium Tremens	3	-	-	1	-	-	-	16	1	-	-
Neuralgia	-	6	1	-	-	-	-	1	-	-	-
Vertigo	-	-	-	-	-	-	-	-	-	1	-
Inflammation of the Lungs and Pleura	7	8	2	1	9	3	2	16	1	16	2
Phthisis and Hæmoptysis	4	3	2	3	1	-	6	2	3	4	1
Influenza and Catarrh	15	77	16	52	16	22	10	51	14	122	9
Cynanche	2	45	1	2	11	2	-	50	2	24	-
Asthma	-	2	-	-	-	-	-	-	-	-	-
Disease of the Heart, Functional and Organic	1	6	1	-	7	1	3	5	1	6	1
Aneurism	-	-	1	-	-	-	-	-	-	-	-
Hæmorrhoids	4	1	1	3	2	1	-	-	-	10	-
Varix	-	-	-	-	-	-	-	-	-	1	-
Inflammation of the Stomach and Bowels	-	-	-	-	1	-	-	-	-	-	-
Cholera	-	-	-	-	-	-	-	-	-	-	-
Dysentery	1	1	-	1	-	-	-	-	1	-	-
Diarrhœa	16	114	22	29	45	37	18	31	29	66	10
Constipation and Colic	3	13	9	3	3	5	-	17	10	1	1
Inflammation of the Liver	1	1	1	-	1	-	1	4	-	4	-
Jaundice	-	2	-	-	-	-	-	1	-	1	-
Inflammation of the Bladder and Kidneys	-	1	-	-	-	-	-	1	-	5	-
Syphilis, Primary and Secondary	17	60	16	10	22	6	7	23	24	25	5
Gonorrhœa	6	7	1	2	7	3	4	1	7	5	-
Orchitis	5	12	1	3	-	4	3	13	5	6	-
Stricture of the Urethra	4	5	1	-	2	-	1	1	1	5	-
Incontinence of Urine, &c.	-	3	-	1	1	-	-	-	-	-	-
Rheumatism	16	58	4	6	19	15	3	19	21	40	4
Gout	-	-	-	1	-	-	-	-	-	-	-
Diseases of the Bones and Joints	-	3	-	2	2	-	1	-	-	1	-
Inflammation of the Eyes	-	6	1	2	3	1	2	11	6	2	1
Amaurosis and Cataract	-	1	-	-	-	-	1	1	-	1	1
Otitis and Deafness	-	4	1	2	2	1	-	1	-	-	1
Erysipelas	-	-	-	2	-	-	-	1	-	5	-
Scrofula	-	-	-	2	-	-	-	-	1	5	-
Bubo (*Symp.*)	11	10	-	1	2	10	4	4	6	-	-
Phlegmon and Abscess	36	285	118	82	92	63	26	380	42	158	38
Ulcer	31	80	2	32	35	13	10	55	44	56	1
Psora	-	2	-	-	-	-	-	1	-	-	1
Eruptions, &c.	-	7	2	2	6	3	1	-	4	11	3
Dyspepsia and Debility	10	19	1	16	11	14	10	8	15	26	4
Headache, &c.	1	18	-	2	3	-	-	-	5	13	-
Dropsy	-	6	-	2	1	-	-	-	1	-	-
Worms	-	-	b1	-	-	b1	-	-	-	-	-
Wounds and Injuries	42	146	68	44	61	41	27	232	52	137	17
Burns and Scalds	2	6	2	1	1	3	-	13	2	15	2
Hernia	1	1	1	2	-	-	-	1	-	4	-
Submersion	-	-	-	-	-	-	-	-	-	2	-
Asphyxia	-	-	-	-	-	-	-	-	-	1	-
Poisoning	-	-	-	-	1	-	-	-	d4	-	-
TOTAL	329	1,083	385	319	430	303	180	1,087	315	797	106

a Insolation. *b* Tænia. *c* Ascaris Lumbricoides.

TABLE, No. 6.

Ship employed on the NORTH AMERICAN and WEST INDIAN STATION.

Lily.	Medea.	Niger.	Nimble.	Peterel.	Pylades.	Rosario.	Royalist.	Shannon.	Sphinx.	Steady.	Styx.	Terror.	Wolverene.	TOTAL.
76		53	34	17	2	42	4	5	40	29	10	21	92	509
18		3		4	3	4	1			9	2		10	131
	1		2			3								11
				1	1									3
														1
										1				2
1		1		1	1	1						1		6
	2	1											2	14
1		2				1				1		2	2	7
			5		3				1	1	1	1	2	5
1														28
														19
5	1	1		7	11	1	1	2	1		1	10	5	7
					3	2						5		113
6	30	1	2	6	42	5	16	2	6	1	6	19	12	39
5	2	4	1	3	13	6	1	3	5		4	1	6	558
														192
			4		1	7	1	1			2	1	8	3
1			1				1	1		1				57
		3				1							2	2
			1				1			3			1	26
2														7
5				1	6		1	1				5	2	2
14		35	5	10	21	31	13		17	4	18	32	64	25
11	1	2	4		7	9	3		2		4	3	6	681
1		1		1	1						1	2	1	117
													1	21
		1	1						1					5
5	2	12	4	4	11	4	1	2	1	3		7	6	10
4	2	1	2	1	2	4	1		2	1	12	3	3	277
2	2	3	2	1	5	3	2	3	3		6	4	4	79
		1				2				1				90
		1	2											26
13	5	17	9	3	36	10	18	8	16	17	7	15	41	6
	1	3	2		3	1			1	1			1	415
2		2	1	1	2	2	1	1	1	1	2	1	8	2
		1		1	1								6	29
				1	1	2			1			1	2	57
						2					1	2		6
7			3	3	5	5	2	7		1	5	1	1	20
27	11	98	15	22	43	49	30	20	38	27	33	44	142	15
4		39	13	5	12	35	4	7	3	19	27	22	35	9
												2		88
3		12	1	1	7	1	2	1	1	1	2	2	8	1,919
11	8	18	3	8	3	7	8	4	11	4	18	10	30	584
2		9			1			2		1	3		7	6
		1							3	1				84
								1	1	1			7	275
						c1					c1			68
39	20	55	21	25	142	56	27	35	23	22	82	74	70	21
2	1	4	2	1	6	3	2	5	1	2	1	1	6	4
		2			2				1	1			4	1,558
														84
														20
														2
														1
													e1	6
268	87	387	138	127	399	300	136	110	179	153	249	292	600	8,739

d By Fish. *e* By Chloride of Zinc.

SOUTH EAST COAST OF AMERICA.

South East Coast of America Station.

THE squadron on the South East Coast of America consisted of eleven vessels, viz., one fourth rate; one sixth rate; two sloops; two steam vessels; four gun-boats; and one receiving ship permanently stationed at Rio de Janeiro. There was also a small detachment of marines at the Falkland Islands. Only five of the vessels were on the station during the whole twelve months. The returns from the other vessels are for periods varying from four and a half to nine months. The mean force corrected for time was 1,050, and the total number of cases of disease and injury placed on the sick-list 1,693, which is in the ratio of 1612·3 per 1,000 of mean force, being a decrease, as compared with the preceding year, to the extent of 157·7 per 1,000.

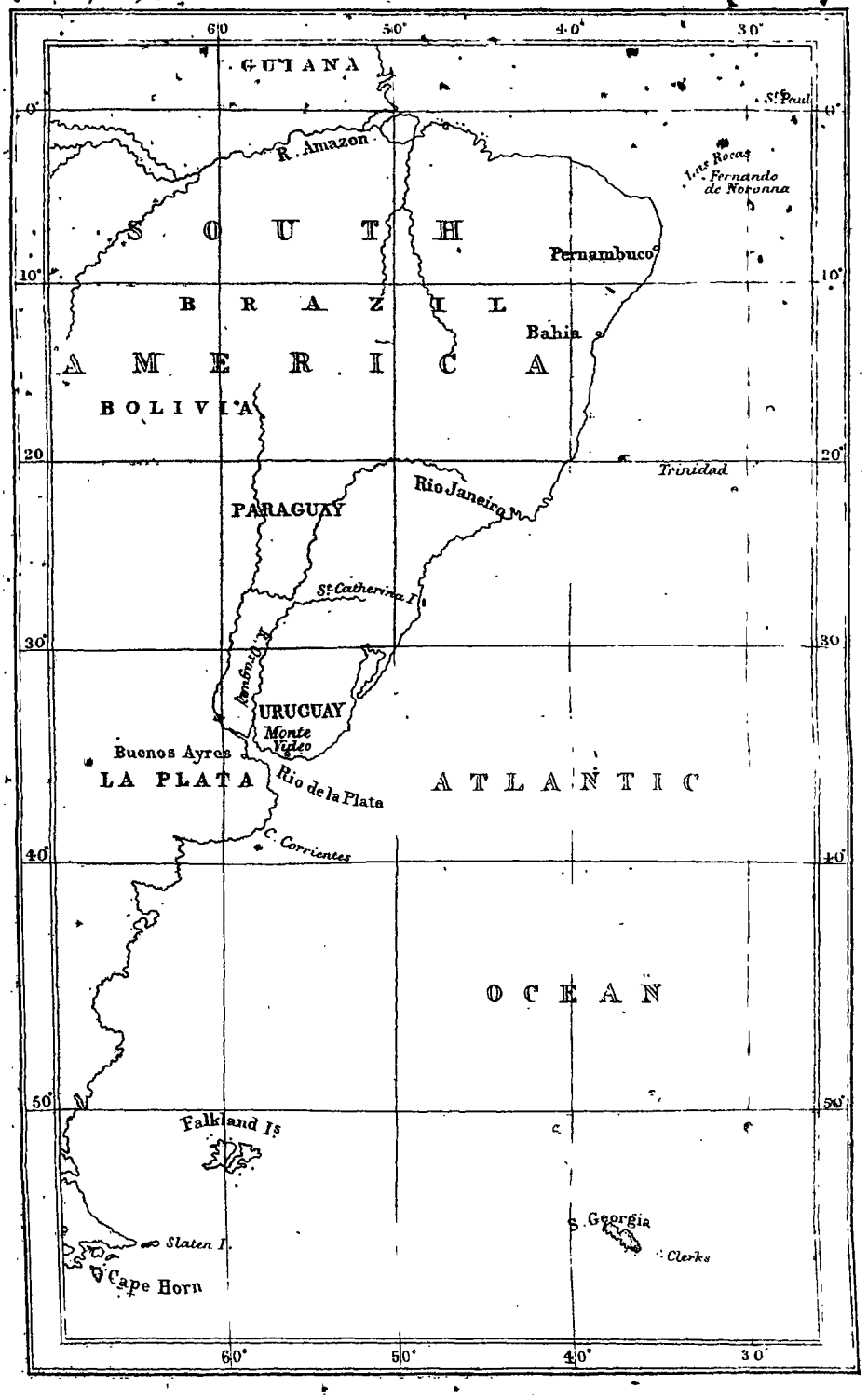
The daily loss of service from fevers, including the exanthemata, was at the rate of 3· per 1,000; from diseases of the brain and nervous system, ·1; of the organs of respiration, 3·7; of the heart and blood-vessels, ·3; of the alimentary canal, 4·7; of the genito-urinary organs, 6·; from rheumatism and diseases of the bones and joints, 3·4; from diseases of the special senses, ·1; of the skin and cellular tissue, 17·5; from diseases not classed, ·1; and from wounds and injuries of various kinds, 8·9. The average number of men sick daily was 55·8, which is in the ratio of 53·1 per 1,000 of mean force, being a slight decrease as compared with the previous year.

Fevers.—Sixty-five cases of continued or remittent fevers; twenty-three of ague; six of small-pox; one of measles; and one of vaccinia were under treatment during the year. There was no loss to the public service either by invaliding or death from these affections. The average duration of each case of continued or remittent fever on the sick-list was about fifteen days; of ague, eight days; of small-pox, between nineteen and twenty days; of measles, fourteen days; and of vaccinia, three days.

Continued

SOUTH EAST COAST OF AMERICA STATION.

(To face p. 128)



Continued and Remittent Fever.—There was a single case of primary fever in the Curlew, but it was of a very ephemeral nature. South East Coast of America.

In the Doterel there was a single mild case of remittent fever. The disease appears to have been contracted in the River Parana.

There were three cases of primary fever in the Gleaner, two of which were of an ephemeral nature, but the third was well marked enteric fever. It occurred in the person of a marine, of a very debilitated and cachectic habit of body, being much reduced by secondary syphilis and struma. The disease, as frequently happens in this form of fever was at first exceedingly obscure, but ultimately the characteristic rose-coloured eruption and diarrhœa became fully developed. He remained on the sick-list at the end of the year, but was then convalescing.

There were eight cases of primary fever in the Narcissus, the majority of which appear to have been of an ephemeral character. The average duration of each case was about seven days. One of the cases recorded appears to have been of the enteric type. The bowels were frequently moved; there was abdominal pain; considerable fever; a tendency to lethargy; and ultimately an eruption appeared over the abdomen, which, however, was attributed, by the medical officer, to the effect of the counter-irritation which had been employed in the treatment of the case. After being ten days on the sick-list of the Narcissus he was discharged to hospital, where his case appears to have proved very tedious, as he remained under treatment at the end of the year, having then been sixty-eight days in hospital. Another case of which only a few details are given, was also apparently enteric; and a third, which is returned as pneumonia, appears to have been an obscure case of continued fever, with inflammation of the lungs occurring as a complication. With reference to these cases the surgeon* makes the following observations:—

"A case of pneumonia in a boy occurred, not in an original idiopathic form, but appeared to be secondary, depending on a low feverish condition of the patient, the crisis of which was inflammation of the lungs of an asthenic form, setting in on the fifth day of his illness, increasing until the eighth day, with a crisis of free perspiration, from which date the fever lessened. Considering the amount

* Surgeon F. W. Blake.

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amount of lung tissue involved, and the excited state of the respiration, the amount of pain complained of was slight, and only continued during the first four days of the chest symptoms. This fact drew my attention to the certainty of the pneumonia being a secondary affection, requiring a supporting and stimulating treatment, which was adopted from the first. As soon as the serious nature of his illness became well marked he was removed to Her Majesty's ship Egmont for treatment. At the same date another boy was placed on the sick-list with similar symptoms of low fever, which proved to be typhoid without complication. He also was sent to the hospital ship on the fifth day of his illness. No cause could be assigned for these two cases. A third case of obscure typhoid fever happened, ten days after the former cases were placed on the sick-list, in the person of a seaman, accompanied from the first with obstinate diarrhœa and derangement of the sensorium. The appearance of an eruption was rendered doubtful by the application of turpentine stupes. The patient was sent to Her Majesty's ship Egmont on the ninth day of treatment. He had been on leave at Rio de Janeiro for twenty-four hours previous to his illness."

There were twenty-three cases of primary fever in the Satellite. Of these, four are returned as continued, nine as remittent, and ten as ephemeral fever. The average duration of each case of continued fever on board ship was about nine days; one of these was sent to hospital; of remittent fever, eight of which were discharged to hospital, ten days; and of ephemeral fever about seven days. With the exception of two cases of ephemeral fever, all this disease occurred during the Midsummer quarter of the year, when diarrhœa, dysentery, and fever prevailed in an epidemic form on board. At this time the ship had been anchored off Colonia, for the purpose of having a damaged rudder repaired. The bowel affections and the fevers were so blended together in this epidemic that it appears better not to disconnect them here, but to give the following special report on them by the surgeon* of the Satellite, who says:—

"The anchorage is open from W. to S. E.: various shoals surrounded the ships in every direction, rendering the water shallow, in places rocky, muddy, or spreading out in an open sandy beach. The alluvial lands preserve, as is well known, their unbroken undulating formation, far in the interior; here, however, having a gentle elevation over the river of about 50 or 60 feet. Just over this rising ground the land suddenly dips into a hollow, which, forming a natural reservoir, becomes a stagnant reedy marsh, running parallel to the river for three or four miles, and distant from it from a half to one and a half miles. Here and there this long straggling marsh is

* Surgeon Robert Creighton.

is dried up by the summer's sun into isolated pools fringed around with thick tenacious mud, overgrown with brambles, rank weeds, and grapes, and much frequented by aquatic birds of various sorts. At a distance of about two miles further on, inland, from the ship, but close to the bend in the river, is another and peculiar marsh, the Lagos de los Patos, covered with water, reeds alone growing on its banks, but in places having tracts of brown mud so soft but retentive as to enable the innumerable wild fowl to walk over or flounder about in search of food. In some places at not more than a yard or two from its grass-grown margin, animals accidentally becoming entangled in this slimy morass recover themselves with difficulty. Heaped-up sandhills shut in both lagoons from the river. Such being our anchorage, and remembering the season of the year and the character of this river for endemic disease generally, it would be a fortunate but a happy exception if the usual sickness did not prevail. That the Satellite did not prove the happy exception is seen by the sequel.

"During the first ten days of our stay the men remained quite healthy, the sick-list averaging only six or seven daily, mere trifles. On the 22nd of March a case of diarrhœa was entered, on the 24th one of acute rheumatism, and in a few days diarrhœa became prevalent. We left Colonia on the 1st of April, and arrived at Buenos Ayres the same day, fresh cases continuing to be added to the list. Up to the 10th or 11th of April almost everyone, on being questioned, admitted they had had 'the looseness off and on for a week or so, thinking it would wear off,' thus showing clearly its origin to have been at Colonia; so that the entries in the sick-book afford as truthful information as to the period of the attack as to its seeming progress.

"The cases which appeared at Colonia differed in several particulars from those appearing to arise at Buenos Ayres. At Colonia, and in all the cases traceable to it, they were characterised by repeated sudden gushes of thin brown fluid, unattended by any pain whatever—no straining, only a simple uncontrollable flux, often overtaking the patient in his cot, and even coming away from him in his sleep. A few had headaches, and in one this symptom was exceedingly severe, suddenly attacking the ear and as suddenly ceasing to affect that organ. Great prostration attended this case throughout, which, occurring in the person of a man susceptible to the disease, having been on one occasion previously nearly sixty days under treatment for diarrhœa, quickly proved fatal from sheer exhaustion. No medicine exercised the slightest influence in controlling this man's diarrhœa.

"Chills, with feeling of cold when the skin was hot, and occasional perspirations, seemed to alternate with these purgings. The depression which followed the ever-recurring discharges of fluid was very marked, even amounting to fainting; and even in the horizontal position the feeling of depression was intense, the face grew pallid, the skin cold, and the pulse was that of prostration. Such were the general symptoms of the diarrhœa of Colonia.

"At Buenos Ayres, where we remained until the 12th of April,

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the disease began to assume the dysenteric form, with pain along the course of the transverse colon preceding and accompanying each stool,—straining, and the passage of shreds of mucus and blood. More marked ague-like chills, with heat of skin and the feeling of cold and perspiration at night, attended these cases, but it was impossible to assign any periodic regularity to them. It would appear as if the chills alternated with the purging, and the influence of the medicine in arresting the purging was the signal for the feverish state to commence. We returned to Colonia on the 13th of April, but this time anchored much farther off. Here, again, did the new cases of diarrhœa exhibit the peculiar flux of thin brown watery fluid, and from this it was evident that Colonia exercised a different effect on the character of the disease from Buenos Ayres.

"Accompanying the cases of diarrhœa and dysentery were cases of fever of a remittent type. There was the continued febrile state with irregular exacerbations, a fiery red tongue shining through a very thin white gauze or lace-like coat, and slight gastric irritation. Diarrhœa attended or alternated with these cases. So remarkable were some of them, that for many days it was doubtful whether the fever would ultimately prevail as the permanent disease, so to speak. Cases of this description were entered which for some days were feverish and treated as such, but the diarrhœa came on and remained as the only symptom. On the other hand, some commenced as diarrhœa; in a few days this ceased, and fever alone became the final disease. It was observed that nearly all the fever cases occurred amongst boys lately arrived on the station. They were all in a measure distinct from ordinary remittent fever accompanied by diarrhœa, and some peculiarity of constitution seemed to determine whether the intestines alone (diarrhœa) or the system in general (fever) should finally be engaged. On sending these cases to hospital at Monte Video, and there watching them from day to day, it was found that the remittent character disappeared, and simple continued fever alone remained.

"On reviewing the whole state of these diseases, whether the diarrhœa pure and simple, beginning and ending as such, whether those merging into dysentery, or those ending in or accompanying the febrile state, or fever alone, I feel assured that they were, one and all, to be attributed to malaria. They did not originate in the ship, for she was always clean and always healthy, second to none on the station in that respect for the last two years: they did not spring from the water used on board, for its effects would at once have been manifested, whereas using it we remained healthy over ten days, and the sickness continued under the use of condensed water: they did not arise from the use of fruit, for little or none was brought on board for sale; but they were cases of malarious poisoning, and the different forms of disease resulting were dependent upon peculiarities of constitution, the purgings and the perspiration being the effort of nature to expel the poison from the system. In ascribing a malarious origin to this sickness on board, it should be stated that the town of Colonia was said to be then healthy, and that agues do not prevail notwithstanding the proximity of the marshes;

marshes; but everyone bears testimony to the immediate appearance of diarrhœa and dysentery in people removing from an inland to a littoral residence in these parts." South East Coast of America Station.

There were four cases of primary fever in the Sharpshooter. They appear to have been of a trivial character.

In the Stromboli, there were fifteen cases of primary fever. Thirteen of these were of a mild character, and were accompanied with catarrhal symptoms. One was of a serious nature, however, being complicated with severe hepatic symptoms, and requiring to be sent to hospital. There was also one case of remittent fever, presenting no unusual features, which was sixteen days under treatment. The average duration of each of the other cases was between nine and ten days.

Ten cases of a mild form of continued fever were placed on the sick-list of the Triton. The average duration of each case was about five days, and they are stated to have been chiefly attributable to errors of diet.

Small-Pox. — Six cases of small-pox occurred in the squadron. In five of those affected, the disease was contracted at Rio Janeiro, where it was very prevalent; and in the sixth, at Monte Video, where also it existed on shore, in an epidemic form. In all the cases the disease was exceedingly modified, the patients being protected by previous vaccination.

Measles.—One case of measles occurred in the Stromboli at Monte Video, where it is stated to have been very prevalent on shore. It was of a very mild character.

Diseases of the Brain and Nervous System.—Two fatal cases of meningitis occurred in the squadron. One of these was in the person of a marine of the Satellite, and appears to have been connected with a syphilitic taint. He had been under treatment for a syphilitic sore, which healed up under local remedies in a week; but before it was quite well, some peculiarity in his manner was observed; his eyes were bright and staring, and he answered questions correctly, but slowly, as if requiring some little time to comprehend them. He stated that he had had a fixed pain in his head for some time, accompanied with giddiness, confusion of ideas, and inability to "collect himself," as he expressed it. The skin and pulse

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were natural, the tongue had a raw whitish appearance, his bowels were constipated, and his sleep bad. These symptoms became aggravated from day to day, the pain continued fixed, and the difficulty to answer questions increased. He gradually fell into a low prostrate state, with a dry brown tongue, feeble and frequent pulse, and relaxed sphincters. No means employed appear to have had the slightest effect in counteracting these symptoms, and he sank exhausted, after being eighteen days under treatment for the symptoms connected with the head. On a post-mortem examination considerable subarachnoid effusion was found with congestion of the vessels over both hemispheres of the brain. Over a space as large as a five shilling piece, situated at the superior posterior portion of the left hemisphere, the arachnoid and pia mater were adherent to the brain, and thickened from effusion of lymph and turbid serum.

The other fatal case occurred in the person of a seaman of the Gleaner, and was in all probability dependent on scrofulous disease of the petrous portion of the temporal bone. The man had suffered for several months from otorrhœa, and occasional exacerbations of pain in the left ear. There was a thickened state of the lining membrane of the external meatus, and considerable deafness on that side. He was placed on the sick-list complaining of headache and earache. During the night the pain and discharge from the ear suddenly ceased, but the headache increased much in intensity, and on the following morning the eyes were suffused, the skin hot, and the pulse full, 110. Next day the pulse was down to 80, and was regular and soft, but the intensity of the headache continued. Two days afterwards, the following report was made by the medical officer* of the ship:—

"9th December.—During the night was slightly delirious, and saw painful objects before his eyes; bowels freely open. On protruding the tongue it was inclined towards the left side. Answers questions sensibly but slowly; pulse quiet; sensibility of iris much diminished; pupils slightly dilated. Complains much of headache and stiff neck. Removed to the English Hospital this morning. 11th. Died in hospital at 3 a.m. this morning. There was very little change in the symptoms up to the time of his death, gradually sinking into a state of coma. There were no well-marked nor violent cerebral symptoms during his illness."

The

* Assistant Surgeon H. Scott Lauder.

The post-mortem examination was, from want of time and opportunity, it is said, not very minutely conducted.

"On removing the calvarium the dura mater appeared slightly congested, and had a puffy appearance from the exudation of serum mixed with flakes of lymph beneath it. The membranes and the veins on the surface of the brain were much congested. On incision the brain was found to be considerably engorged with blood, the medullary substance being of a pink hue, and studded with red points. The ventricles contained about an ounce of serum. No dissection was made of the internal ear."

Diseases of the Organs of Respiration.—The ratio of cases coming under this head is much below that of the preceding year, and the death-rate is also somewhat lower; there is an increase, however, in the ratio of invaliding occasioned by them. The reduction in the ratio of cases is entirely attributable to the fewer attacks of common colds and sore throats entered on the sick-list.

In Table IV., one death from pneumonia is returned by the Narcissus. This case has been already referred to in remarking on the primary fevers that appeared in that vessel. It occurred apparently as a complication of a low form of remittent fever.

Diseases of the Heart and Bloodvessels.—A fatal case of heart disease occurred in the person of a petty officer of the Sharpshooter. It was attended with symptoms of angina pectoris, from which he had apparently suffered occasionally for some time previously, as his messmates stated that he had had several short fits of dyspnœa at night, attended with violent pain at the sternum, and a feeling as if he were going to die. On the occasion of the fatal seizure he had been engaged seeing the anchor catted, on the morning of the 5th of October, when, he stated, he was suddenly seized with an agonizing pain in the chest, at the lower end of the sternum, and fainted. He was seen immediately by the medical officer, who found him in a state of syncope. On his reviving he gave the above account of the onset of the seizure. He still complained of the pain, and stated that he had pain also in both shoulders, extending down to the elbows. He could take a deep breath without increasing the pain, but could not lie down either on the back or side. The skin was pale and cold, and bathed in perspiration. The pulse was quick and weak, and the respiration hurried and asthmatical. There was no cough, and no abnormal chest sounds could

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be heard; the heart's action was rapid, but regular. Stimulants were given, and turpentine stupes applied to the chest. At noon the skin was warmer, but the respiration more hurried and difficult, and the lips were blue. These symptoms increased progressively. Expectoration of thin frothy mucus commenced, and soon became almost constant. The respiration was more hurried, and the pulse 120 and very feeble. He stated that he felt every moment as if he would be suffocated, and the only position he could endure was sitting in an easy chair with his body bent forward. In this condition he died at 3 a.m. of the following morning. The following report of the post-mortem examination of the body is by the medical officer* of the Sharpshooter, from whose detailed history of the case the above abridgment has also been made:—

"Body spare, but muscular; cadaveric rigidity well marked. The layers of the pericardium were found strongly adherent over the whole surface of the heart, except a small portion posteriorly; the adhesions were so strong as to require the use of the knife to separate them. The right side of the heart appeared healthy; there was much dark semi-coagulated blood in the cavities. The left ventricle was much dilated; the cavity, much larger than that of the right, contained a large firm piece of decolorised fibrine. The walls were a little thicker than natural, very dark in colour, and, looking at one or two points, as if a small quantity of blood had been effused. The lungs were healthy, congested posteriorly, and the air-tubes full of a thin fluid. There were one or two pleuritic adhesions."

A petty officer and two boys were invalided for disease of the heart. In the petty officer and one of the boys the disease was organic; but in the other boy it appears to have been of a functional character. He was a hysterical subject, and on the least exertion became affected with palpitation and dyspnœa. There were no morbid physical signs.

Diseases of the Alimentary Canal.—There is a slight increase in the ratio of cases coming under this head, as compared with the previous year, arising altogether, unfortunately, from the greater prevalence of dysentery. The ratios of invaliding and of mortality are also increased.

A singular and rapidly fatal case, returned as enteritis, occurred in the person of a marine of the Sharpshooter. He had been very subject to attacks of colic, it appears, both previous

* Assistant Surgeon G. W. L. Harrison.

previous and subsequent to his joining the ship, and on the occasion of his last illness he stated that he had felt ill for about a week before applying for relief. When seen at 1·30 a.m. of the morning of the 26th of June he complained of severe epigastric pain of a cutting character, and said that he had had diarrhœa during the previous day. Twenty minims of chlorodyne were given him, but at 8 a.m. the pain continued unabated. An opiate, with tincture of rhubarb, was now administered, but without effect. At noon he complained of severe twisting pains about the umbilicus, and had slight tenderness on pressure over the course of the large intestine; the abdominal muscles were hard and contracted; and he had slight febrile symptoms. He then complained that he could not lie in his hammock when slung, but would like to have it on deck, so that he might roll about when the pain was severe. Six drachms of castor oil were now prescribed, and he was ordered continued fomentations. At 8 p.m. the bowels had not acted; there was no vestige of fever, and the oil, with an opiate, was repeated, and the fomentations continued. At 4 a.m. of the 27th the symptoms were unchanged. Seven grains of calomel with two of opium were now given, and turpentine stupes applied to the abdomen. At 8 a.m. he was rather easier; the bowels had not been moved; the tongue was whitish, and the pulse rather weak. There was no very anxious expression of countenance, and no increased heat of skin. On being questioned he said he felt slight chilliness at times. There was some slight swelling of the belly, apparently from distension of the large intestine, and he had vomited several times the arrowroot and other nourishment taken. At 1.30 p.m. he was sitting up and still complained of pain; he had felt two or three times as if his bowels were going to act, but refused the bed-pan when offered him, and had gone to the round-house on deck. A dose of castor oil with two drops of croton oil was now exhibited. After this he remained quiet, instead of moving about as he had done previously, until about 3·45 p.m. when he was sitting up, and complained of thirst. He refused some milk that was offered him, saying he would wait until tea was ready. Shortly after this he became sick, and vomited a large quantity of stercoraceous matter. His lips now became blue, and his voice weak, and in a few minutes he expired. The following is the report of the post-mortem examination of the body:—

"The body was fairly muscular; the abdomen considerably swollen and tense. On opening it the mass of small intestines was

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seen highly congested, of a maroon colour, and nearly black in parts from the duodenum to the caput coli. On being followed carefully throughout its course no invagination, constriction, nor twist could be discovered. It contained gas, and dark blood exuded from the highly congested gut. The finger passed readily into the colon, where the dark colour terminated. No lymph was seen on the outer side of the intestine, either of recent or old formation. The ascending and part of the transverse colon presented patches of redness in parts, but none on the rest of the transverse or descending colon; the whole course contained numerous scybalæ. The heart was healthy in appearance; the right cavities contained some dark clots and fluid blood. The right lung had some old pleuritic adhesions; otherwise both were healthy. Nearly the whole of the upper surface of the liver was adherent."

The medical officer adds:—

"From the absence of any great tenderness on pressure, and what there was being over the course of the colon; from the very slight fever, which only lasted a few hours; from the patient's not keeping in one position, but shifting about, I considered the case to be one of colic, and treated it accordingly. So far was I from apprehending so rapidly fatal a termination, that until I had made the post-mortem examination of the body I fancied that the patient had been asphyxiated by some of the vomitted matter passing into the trachea."

There was a single case of acute dysentery, and thirteen of diarrhœa in the Curlew. The dysenteric case appears to have been of great severity. It occurred at Pernambuco, in the person of a seaman, who on the night previous to his being taken ill, had been away in an armed boat protecting the wreck of a merchant brig, and was one of the working party employed in saving her cargo. At this duty he was much exposed to wet, an impure atmosphere in her hold, and to a hot sun. Whilst away in the boat he vomited frequently, and felt so ill as to be obliged to lie down in the bottom of the boat. Next morning he was found to be suffering from general febrile excitement, accompanied by headache, severe lumbar pains, rigors, anorexia, and with griping pain in the umbilical region. The nausea and vomiting had ceased, but he had frequent scanty dejections, attended with griping and tenesmus, and consisting of mucus tinged with blood. The tongue was thickly coated; the pulse quick; and the urine scanty and high-coloured. These symptoms ran on unchecked for some days, and in some respects indeed became aggravated in character. They were finally, however subdued, and he was discharged to duty, after being twenty

twenty-six days under treatment. With respect to the case of diarrhœa, the surgeon* says :—

"Diarrhœa was prevalent during the month of January and early part of February, when at Rio de Janeiro and Monte Video. In the treatment of some of these cases, turpentine suspended in mucilage, and, combined with tincture of opium and mint-water, was found very efficacious."

One case of dysentery, which was placed on the sick-list on the last day of the year, and ten cases of diarrhœa, occurred in the Doterel. With reference to seven of these cases, which occurred while the vessel was at Colonia, in the River Plate, the medical officer* has the following observations :—

"These seven cases were so much alike in their nature, course, and even individual symptoms, that a general description will be sufficiently accurate to give a correct idea of them all. At first, the patient was seized with griping pains in the abdomen, followed quickly by nausea, or even vomiting, and several fœtid evacuations from the bowels. There was generally considerable tenderness in the abdominal region, and tenesmus at stool, but in one case alone was there any appearance of blood in the dejections. The patient quickly lost flesh and strength, and retained but little appetite, and in several instances complained of erratic pains in various parts of the body, more especially referring them to the lumbar region.

"It is not easy to assign a cause for these cases, but that it was epidemic is clear, for the disease occurred simultaneously in other vessels lying at Colonia at that time, and in some instances still more severely than in this. Among the more frequent causes of diarrhœa in the River Plate, there are two which may be mentioned, as they are those which more commonly induce this affection in Her Majesty's vessels.

"First, there is the water of the river, which is commonly used for drinking and cooking purposes; this, even when pure, frequently gives rise to diarrhœa in those not accustomed to its use; but as the water is supplied by contract, and often required at short notice, the small schooners employed as tanks do not always ascend the river beyond the reach of the salt water; or, if those employed in them are sufficiently conscientious to do so, they are often too ignorant to know that the tidal mark varies, or too careless to be particular as to the quality of the water they bring back. In this manner oftentimes, the water, which was seemingly as good as usual, after being a few days on board becomes unfit for use; however, in the present instance, the water could not have been the exciting cause, for, besides being pure (as river water), the men had been accustomed to it for years.

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* Surgeon John Coogan. † Assistant Surgeon N. T. Connolly.

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"As to the second cause to which reference was just now made, it is not quite so clear that it had no part in producing the outbreak in question. As a cause of enteric affections, "carne cansado," or tired meat, is well known in the River Plate. This meat is taken from animals that have been driven long distances (or hunted down in the act of lassoing them) before being slaughtered. It is not always easily recognisable, but may be generally known by its being more friable than when in a state of health, the muscular fibre becoming softened and broken down, and sometimes even discoloured from the infiltration of blood. Until recently, this meat was allowed to be exposed in the markets for sale, but now the police authorities have taken the matter in hand, and have, in a great measure, stopped the consumption of such a deleterious article of food. At Buenos Ayres at least, the market, and all animal food exposed for sale, is regularly inspected before the admission of the public; but in the smaller towns, where the regulations are not strictly enforced, it is to be feared that but too often the unwary foreigner suffers. There is, however, no direct evidence to connect the Colonia epidemic with the consumption of this 'tired meat;' but in the absence of other cause, and from various facts as to the supply of fresh beef, and the mode in which it was obtained, the presumption is in favour of the hypothesis.

"These cases were treated in the usual manner, and yielded to the ordinary remedies; but there were others which set at defiance every remedy in the pharmacopœia, and only recovered when removed from the place. The indication seeming to be to assist nature in getting rid of the irritating matters in the bowels, an ounce of castor oil, with thirty drops of tincture of opium, was administered at the onset of the disease; if this did not place the man in a fair way of recovery, with the assistance of a farinaceous diet, he was ordered the acetate of lead and opium pill, in the proportions of three grains of the former to one of the latter, three or four times a day; but the chalk and opium mixture seemed to be more efficacious. Where the former medicine was used, an occasional dose of castor oil was given, notwithstanding which a very few grains of the acetate sometimes produced the peculiar blue line on the margin of the gums. These cases were all discharged to duty in periods varying from three to nineteen days."

There were sixteen cases of diarrhœa in the Egmont. Some of these were referred to over-indulgence in fruit, and some to unavoidable exposure to cool air when in a state of perspiration.

A single case of dysentery, and one of diarrhœa, appear in the returns from the Gleaner.

There were sixty-six cases of diarrhœa in the Narcissus; they were attributed by the surgeon to the sudden changes of climate which are so frequent in the River Plate, where the majority of them occurred. They appear to have been

of

of a very trivial character, the average duration of each case on the sick-list being between three and four days.

There were six cases of dysentery, and 106 of diarrhœa, in the Satellite; they occurred during the epidemic which visited that vessel at Colonia and Buenos Ayres; and their history, as furnished by the surgeon of the vessel, has been already given in the remarks upon the fevers that visited the ship's company at the same time.

There was nothing of any interest in the bowel affections occurring in the other vessels of the squadron.

Diseases of the Genito-Urinary Organs.—There was a reduction in the ratio of cases coming under this head, as compared with the preceding year, to the extent of 20·3 per 1,000. Thirty-eight cases of syphilis were under treatment in the squadron during the year, and of these, eighteen appear in the returns from the Narcissus; fifteen of these were secondary forms of the disease, the primary affection having been contracted previous to the vessel's leaving England. The average duration of each case of syphilis on board ship and in hospital, was about forty-seven days, so that the cases appear to have been of a much more obstinate character than those which occurred in 1864, when the treatment of each case only averaged between thirty-two and thirty-three days.

Diseases not classed.—A fatal case of pyæmia occurred in the Egmont in the person of a stoker, a thin, spare man, of an unhealthy and cachectic appearance, nervous and irritable temperament, and a depraved constitution; the result, it is said, of dissipated habits previous to his entering the service, in which he had only been three years. On the 29th of January he was placed on the sick-list with a blister on the left heel, the result of friction caused by a tightly-fitting shoe. This healed in three days, and, on the fourth day he was about to be discharged to duty, when he drew attention to a whitlow on the dorsal aspect of the middle finger of his right hand, over the ungual phalanx. There was heat, pain, and redness over all the fingers; the tongue was foul, and the bowels had not been moved for two days. On the 4th of February pus was found to have formed between the matrix of the nail and the last joint, which was evacuated. On the 6th, suppurative inflammation had involved the whole finger, extending to the sheath of the extensor tendon. Two longitudinal in-

 cisions

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cisions were made into it, affording great relief, and giving exit to a good deal of ichorous pus. On the 7th, the inflammation had travelled as far as the annular ligament, extending over the whole dorsum of the hand, which was tense, puffy, and swollen. At this time the countenance was anxious and pale; he had a little headache, and had had slight rigors. The pulse was ninety-two, full; the tongue foul in the centre, and red at the tip and edges. Two deep incisions were made in the back of the hand, and exit given to a large quantity of unhealthy sanious pus, the edges of the wounds gaping widely. From this date the symptoms of pyæmia became more and more developed. On the 9th, the countenance was pinched and anxious, and the eyes rather sunken; the pulse 116, irregular, and feeble. The arm was very tense and swollen. Two incisions of about two inches in length and half-an-inch in depth gave vent to an immense quantity of sanious pus, the wounds not bleeding, but gaping considerably. On the 11th, the pulse was 128, feeble, and irregular; a peculiar smell emanated from the body; he had had several rigors, and wandered occasionally. On the 14th, the skin was jaundiced, hot, and dry; the eyes sunken and unmeaning, and the pupils contracted; the pulse 136, and irregular; and he was unconscious unless roused, when he answered questions rationally. The tongue was brown, and furred. There was some difficulty in respiration, and he expectorated a good deal of frothy mucus. On the following day the mucous râle became very loud, and he was constantly expectorating muco-purulent matter; the breath had a peculiar hay-like smell; the pulse was almost imperceptible; sordes were forming on the teeth and gums; and the pupils were very much contracted. The wounds in the hand and arm were swollen and sloughy, and no pus was secreted. There was also low, muttering delirium. On the following day he died. Unfortunately, no post-mortem examination was made.

The medical officer,* from whose detailed report the above abridged history of the progress of this case has been made, says:—

"Such was the course of this 'rapid' and peculiarly interesting case of pyæmia, or, rather, 'metastatical dyscrasia,' according to Virchow, the more peculiar as all the outward circumstances favourable

* Assistant Surgeon R. B. O'Toole.

able to its development were absent. The hospital on board is commodious, scrupulously clean, dry, and airy. The weather was cool, the thermometer averaging 69° during the period of his illness; and, in a place where there is room for from fifteen to twenty beds, one only was occupied during both day and night, and three others at night only, all of which I removed to the opposite side of the hospital. I can only account for the fatal issue of this case by the man's own idiosyncrasy of constitution, coupled with the nature of his duties, which for some months were nearly all performed on the lower or orlop deck, where the atmosphere, especially on the orlop deck, is not altogether free from impurities, though for a ship of this kind wonderfully pure, and free from bilge smells."

Wounds and Injuries.—A seaman of the Satellite died from the effects of severe burns over the head, face, trunk, and limbs, caused by the accidental explosion of a rocket in a boat, while at rocket practice.

Three men were drowned; one by jumping overboard from the boat in which the rocket referred to above exploded, to escape the fire; one by falling off a pier; and one accidentally, it is supposed, his body having been found floating in the harbour of Rio de Janeiro some days after he had disappeared, with no marks of violence upon it.

There were twelve deaths altogether, eight being from disease, and four from wounds and injuries, and drowning. The total death-rate was 11·4 per 1,000 of mean force, which, deducting the death-rate occasioned by the burning of the Bombay, is 5·4 below the ratio of mortality of the preceding year. The death-rate from disease alone was 7·6 per 1,000.

Invalided.—Four persons were invalided for diseases of the brain and nervous system; seven for diseases of the respiratory organs; three for functional or organic disease of the heart; six for diseases of the alimentary canal; one for disease of the liver; five for diseases of the genito-urinary organs, four of them being for syphilis, and one for great debility accompanying gonorrhœa and bubo; one for rheumatism; three for diseases of the skin and cellular tissue; one for dyspepsia and debility; one for wounds and injuries; and one for hernia. Altogether, thirty-three persons were invalided from the squadron during the year, which is in the ratio of 31·4 per 1,000 of mean force, being an increase, as compared with the preceding year, to the extent of 6·6 per 1,000.

TABLE, No. 1.

SHOWING the Number of CASES of all DISEASES and INJURIES, and the Number INVALIDED and DEAD, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Continued and Remittent Fever	65	61·9	—	—	—	—
Intermittent Fever	23	21·9	—	—	—	—
Small-pox	6	5·7	—	—	—	—
Measles	1	·9	—	—	—	—
Vaccinia	1	·9	—	—	—	—
Disease of the Brain	2	1·9	—	—	2	1·9
Epilepsy	7	6·6	2	1·9	—	—
Paralysis	2	1·9	1	·9	—	—
Neuralgia	10	9·5	—	—	—	—
Vertigo	—	—	1	·9	—	—
Inflammation of the Lungs and Pleura	16	15·2	1	·9	1	·9
Phthisis and Hæmoptysis	2	1·9	5	4·7	1	·9
Influenza and Catarrh	148	140·9	—	—	—	—
Cynanche	39	37·1	—	—	—	—
Asthma	8	7·6	1	·9	—	—
Disease of the Heart, Functional and Organic	12	11·4	3	2·8	1	·9
Hæmorrhoids	4	3·8	—	—	—	—
Disease of the Stomach and Bowels	5	4·7	1	·9	1	·9
Dysentery	12	11·4	4	3·8	—	—
Diarrhœa	260	247·6	1	·9	1	·9
Constipation and Colic	19	18·	—	—	—	—
Disease of the Liver	1	·9	1	·9	—	—
Jaundice	2	1·9	—	—	—	—

TABLE, No. 1.—Showing the Number of Cases of all Diseases, &c.—*continued.*

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	1	·9	—	—	—	—
Syphilis	38	36·1	4	3·8	—	—
Gonorrhœa	17	16·1	1	·9	—	—
Orchitis	13	12·3	—	—	—	—
Stricture	1	·9	—	—	—	—
Rheumatism	82	78·	1	·9	—	—
Gout	4	3·8	—	—	—	—
Disease of the Bones and Joints	7	6·6	—	—	—	—
Inflammation of the Eyes	11	10·4	—	—	—	—
Otitis and Deafness	3	2·8	—	—	—	—
Erysipelas	4	3·8	—	—	—	—
Bubo (*Symp.*)	17	16·1	—	—	—	—
Phlegmon and Abscess	335	319·	2	1·9	—	—
Ulcer	117	111·4	—	—	—	—
Eruptions, &c.	24	22·8	1	·9	—	—
Dyspepsia and Debility	51	48·5	1	·9	—	—
Dropsy	2	1·9	—	—	—	—
Headache, &c.	14	13·3	—	—	—	—
Purpura	1	·9	—	—	—	—
Pyæmia	2	1·9	-	-	1	·9
Wounds and Injuries	280	266·6	1	·9	—	—
Burns and Scalds	21	20·	-	-	1	·9
Hernia	3	2·8	1	·9	—	—
Drowned	-	-	-	-	3	2·8
TOTAL	1,693	1612·3	33	31·4	12	11·4

TABLE, No. 2.

SHOWING the Number of DAYS' SICKNESS from each DISEASE and from INJURIES, the Average Number of Men Sick Daily, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Continued and Remittent Fever	525	449	974	2·6	2·4
Intermittent Fever	189	-	189	·5	·4
Small-pox	32	86	118	·3	·2
Measles	1	13	14	—	—
Vaccinia	3	-	3	—	—
Disease of the Brain	22	38	60	·1	—
Epilepsy	80	-	80	·2	·1
Paralysis	12	-	12	—	—
Neuralgia	43	-	43	·1	—
Inflammation of the Lungs and Pleura	215	42	257	·7	·6
Phthisis and Hæmoptysis	107	4	111	·3	·2
Influenza and Catarrh	775	-	775	2·1	2·
Cynanche	287	-	287	·7	·6
Asthma	164	-	164	·4	·3
Disease of the Heart, Functional and Organic	182	-	182	·4	·3
Hæmorrhoids	58	-	58	·1	—
Disease of the Stomach and Bowels	48	-	48	·1	—
Dysentery	277	158	435	1·1	1·
Diarrhœa	1,380	78	1,458	3·9	3·7
Constipation and Colic	57	-	57	·1	—
Disease of the Liver	40	28	68	·1	—
Jaundice	46	-	46	·1	—

TABLE, No. 2.—Showing the Number of Days' Sickness from each Disease, &c.—*cont*ᵈ

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	6	-	6	—	—
Syphilis	1,228	574	1,802	4·9	4·6
Gonorrhœa	282	28	310	·8	·7
Orchitis	279	41	320	·8	·7
Stricture	38	-	38	·1	—
Rheumatism	910	273	1,183	3·2	3·
Gout	27	-	27	—	—
Disease of the Bones and Joints	169	23	192	·5	·4
Inflammation of the Eyes	97	-	97	·2	·1
Otitis and Deafness	15	-	15	—	—
Erysipelas	46	-	46	·1	—
Bubo (*Symp.*)	865	40	905	2·4	2·2
Phlegmon and Abscess	3,193	225	3,418	9·3	8·8
Ulcer	1,787	120	1,907	5·2	4·9
Eruptions, &c.	442	208	650	1·7	1·6
Dyspepsia and Debility	333	48	381	1·	—
Dropsy	15	-	15	—	—
Headache	88	-	88	·2	·1
Purpura	6	-	6	—	—
Pyæmia	18	-	18	—	—
Wounds and Injuries	2,975	234	3,209	8·7	8·2
Burns and Scalds	203	104	307	·8	·7
Hernia	7	-	7	—	—
TOTAL	17,572	2,814	20,386	55·8	53·1

TABLE, No. 3.

SHOWING the Number INVALIDED from each Ship employed on the SOUTH EAST COAST OF AMERICA STATION.

CAUSE of INVALIDING.	Egmont.	Gleaner.	Narcissus.	Satellite.	Sharpshooter.	Sheldrake.	Spider.	Stromboli.	TOTAL.
Epilepsy	–	–	1	–	–	–	–	1	2
Paralysis	–	–	1	–	–	–	–	–	1
Vertigo and Neuralgia	1	–	–	–	–	–	–	–	1
Inflammation of the Lungs and Pleura	1	–	–	–	–	–	–	–	1
Phthisis and Hæmoptysis	–	–	3	–	2	–	–	–	5
Asthma	–	–	1	–	–	–	–	–	1
Disease of the Heart, Functional and Organic	–	–	3	–	–	–	–	–	3
Dysentery	–	1	–	2	–	1	–	–	4
Diarrhœa	–	–	–	1	–	–	–	–	1
Stricture of Rectum	–	–	–	–	–	–	–	1	1
Disease of the Liver	–	–	–	–	1	–	–	–	1
Syphilis	–	1	1	–	1	–	1	–	4
Gonorrhœa	1	–	–	–	–	–	–	–	1
Rheumatism	–	–	1	–	–	–	–	–	1
Abscess	1	–	–	–	–	–	1	–	2
Eruptions, &c.	–	–	1	–	–	–	–	–	1
Dyspepsia and Debility	1	–	–	–	–	–	–	–	1
Wounds	–	–	–	–	–	–	–	1	1
Hernia	–	–	–	–	–	–	–	1	1
TOTAL	5	2	12	3	4	1	2	4	33

TABLE, No. 4.

SHOWING the Number of DEATHS in each Ship employed on the SOUTH EAST COAST OF AMERICA STATION.

CAUSE OF DEATH.	Doterel.	Egmont.	Gleaner.	Narcissus.	Satellite.	Sharpshooter.	Triton.	TOTAL.
Meningitis	–	–	1	–	1	–	–	2
Inflammation of the Lungs and Pleura	–	–	–	1	–	–	–	1
Phthisis	–	–	–	1	–	–	–	1
Disease of the Heart	–	–	–	–	–	1	–	1
Enteritis	–	–	–	–	–	1	–	1
Diarrhœa	–	–	–	–	1	–	–	1
Pyæmia	–	1	–	–	–	–	–	1
Burns	–	–	–	–	1	–	–	1
Drowned	1	–	–	–	1	–	1	3
TOTAL	1	1	1	2	4	2	1	12

TABLE, No. 5.

SHOWING the Names of the SHIPS; the Average Complements, &c.; the Number of Cases; the Total Number of Days' Sickness on Board; the Average Number of Men Sick Daily in each Ship; and the Number discharged to Hospital.

C. Commissioned. P. O. Paid Off. D. Returns Defective.

Rate, &c.	NAMES of SHIPS.	Where Commissioned.	When Commissioned.	Number of Guns.	Tonnage.	Horse Power.	Period.	Average Complements.	Average Complements Corrected for Time.	Number of Cases of Disease and Injury.	Number of Days' Sickness on Board.	Average Number of Men Sick Daily for the whole Year.	Ratio per 1,000 of Average Force of each Ship.	Number discharged to Hospital.
Fourth Rate -	Narcissus - C.	Devonport -	4 April 1865	35	2,665	S. 400	1 July to 31 Dec.	570	285	533	5,734	15·7	55·	10
Sixth Rate -	Satellite P. O.	Devonport -	27 Nov. 1861	21	1,462	S. 400	1 Jan. to 22 Sept.	260	195	276	2,611	7·1	36·4	21
Sloop - -	Curlew - P.O.	Devonport -	20 Aug. 1860	9	486	S. 60	1 Jan. to 18 May	95	40	76	701	1·9	47·5	2
	Stromboli - -	Portsmouth	10 Dec. 1861	6	967	P. 280	Year - -	150	150	253	2,610	7·1	47·3	7
Steam Vessel -	Sharpshooter C.	Portsmouth	29 Sept. 1864	6	503	S. 160	Year - -	85	85	116	1,054	2·8	32·9	6
	Triton - -	Devonport -	23 Jan. 1863	3	654	P. 260	Year - -	90	90	94	874	2·3	25·5	4
Gunboat - -	Doterel - -	Devonport -	1 Sept. 1861	2	270	S. 60	Year - -	35	35	82	842	2·3	65·7	6
	Gleaner - C.	- - -	- - -	-	—	—	- - -	35	20	38	331	·9	45·	8
	Sheldrake - P.O.	Devonport -	29 Nov. 1861	2	234	S. 60	1 Jan. to 30 June	40	20	18	139	·3	15·	1
	Spider - D.	Devonport -	14 Jan. 1862	2	236	S. 60	1 July to 31 Dec.	35	20	26	270	·7	35·	2
Receiving Ship	Egmont - -	Portsmouth	23 Dec. 1862	4	1,780	—	Year - -	90	90	174	2,353	6·4	71·1	1
Marine Detachment, Falkland Islands -		- - -	- - -	—	—	—	Year - -	20	20	7	53	·1	5·	—

TABLE, No. 6.

SHOWING the Number of CASES of all DISEASES and INJURIES in each Ship employed on the SOUTH EAST COAST OF AMERICA STATION.

DISEASE OR INJURY.	Curlew.	Dotterel.	Egmont.	Gleaner.	Marines, Falkland.	Narcissus.	Satellite.	Sharpshooter.	Sheldrake.	Spider.	Stromboli.	Triton.	TOTAL.
Continued and Remittent Fever	1	1	–	3	–	8	23	4	–	–	15	10	65
Intermittent Fever	2	–	9	–	–	5	5	1	–	–	1	–	23
Small Pox	1	2	1	–	–	–	–	–	–	–	1	1	6
Vaccinia	–	–	–	–	–	–	–	1	–	–	–	–	1
Measles	–	–	–	–	–	–	–	–	–	–	1	–	1
Disease of the Brain	–	–	–	1	–	–	1	–	–	–	–	–	2
Epilepsy	–	–	–	–	–	3	–	–	–	–	2	2	7
Paralysis	–	–	–	1	–	1	–	–	–	–	–	–	2
Neuralgia	–	–	1	–	–	6	1	–	–	1	–	1	10
Inflammation of the Lungs and Pleura	1	–	1	–	–	4	2	1	–	–	4	3	16
Phthisis and Hæmoptysis	–	–	–	–	–	1	1	–	–	–	–	–	2
Cynanche	1	1	11	–	–	18	3	2	–	–	3	–	39
Influenza and Catarrh	2	10	20	1	2	30	11	15	4	4	41	8	148
Asthma	–	–	–	–	–	8	–	–	–	–	–	–	8
Disease of the Heart, Functional and Organic	1	–	–	–	–	10	–	1	–	–	–	–	12
Hæmorrhoids	1	–	2	–	–	–	–	–	–	–	1	–	4
Inflammation of the Stomach and Bowels	–	–	–	–	–	1	–	1	–	–	1	2	5
Dysentery	1	1	–	1	–	–	6	1	2	–	–	–	12
Diarrhœa	13	10	16	1	–	66	106	15	4	2	14	13	260
Constipation and Colic	1	1	2	1	–	5	2	4	1	2	–	–	19
Inflammation of the Liver	–	–	–	–	–	–	–	1	–	–	–	–	1
Jaundice	–	–	–	–	–	1	–	–	–	–	1	–	2
Inflammation of the Bladder and Kidneys	1	–	–	–	–	–	–	–	–	–	–	–	1
Syphilis, Primary and Secondary	1	1	5	2	–	18	4	–	–	–	3	4	38
Gonorrhœa	2	–	3	–	–	4	3	1	–	–	2	2	17
Orchitis	2	1	3	–	–	3	1	–	–	–	3	–	13
Stricture of the Urethra	–	–	–	–	–	–	–	–	–	–	1	–	1
Rheumatism	2	8	7	6	–	19	12	9	–	2	13	4	82
Gout	–	–	–	–	–	2	1	–	–	–	1	–	4
Disease of the Bones and Joints	–	–	1	–	–	4	2	–	–	–	–	–	7
Inflammation of the Eyes	1	1	1	1	–	3	2	1	1	–	–	–	11
Otitis and Deafness	1	–	1	–	–	1	–	–	–	–	–	–	3
Erysipelas	–	–	–	–	–	2	–	–	–	–	1	1	4
Bubo (*Symp.*)	1	–	6	1	–	3	–	3	–	1	–	2	17
Phlegmon and Abscess	15	20	35	6	1	108	50	20	2	7	49	22	335
Ulcer	5	4	8	1	–	63	6	3	1	4	17	5	117
Eruptions, &c.	–	1	–	–	–	14	1	1	–	1	6	–	24
Dyspepsia and Debility	1	3	2	7	3	25	2	5	–	–	2	1	51
Purpura	1	–	–	–	–	–	–	–	–	–	–	–	1
Headache, &c.	2	–	4	–	–	3	–	–	–	–	–	–	14
Dropsy	–	2	–	–	–	–	–	–	–	–	–	–	2
Pyæmia	–	–	1	–	–	–	–	–	–	–	–	1	2
Wounds and Injuries	15	15	32	5	1	82	24	25	3	1	65	12	280
Burns and Scalds	1	–	2	–	–	5	7	1	–	1	4	–	21
Hernia	–	–	–	–	–	2	–	–	–	–	1	–	3
TOTAL	76	82	174	38	7	533	276	116	18	26	253	94	1,693

PACIFIC STATION.

Pacific Station.

The squadron on the Pacific Station in 1865 consisted of fifteen vessels, comprising two vessels of the fourth rate; one of the fifth rate; three of the sixth rate; six sloops; one gun-vessel (and two store ships); one being permanently stationed at Callao, and the other at Valparaiso. There was also a small detachment of marines in the Island of San Juan. The returns from ten of the vessels, and from the marine detachment, are for the whole year; from the remainder, the periods vary from three to six months. The mean force corrected for time was 2,630, and the total number of cases of disease and injury placed on the sick-list, 3,985, being in the ratio of 1515·2 per 1,000, which is a slight increase as compared with the preceding year.

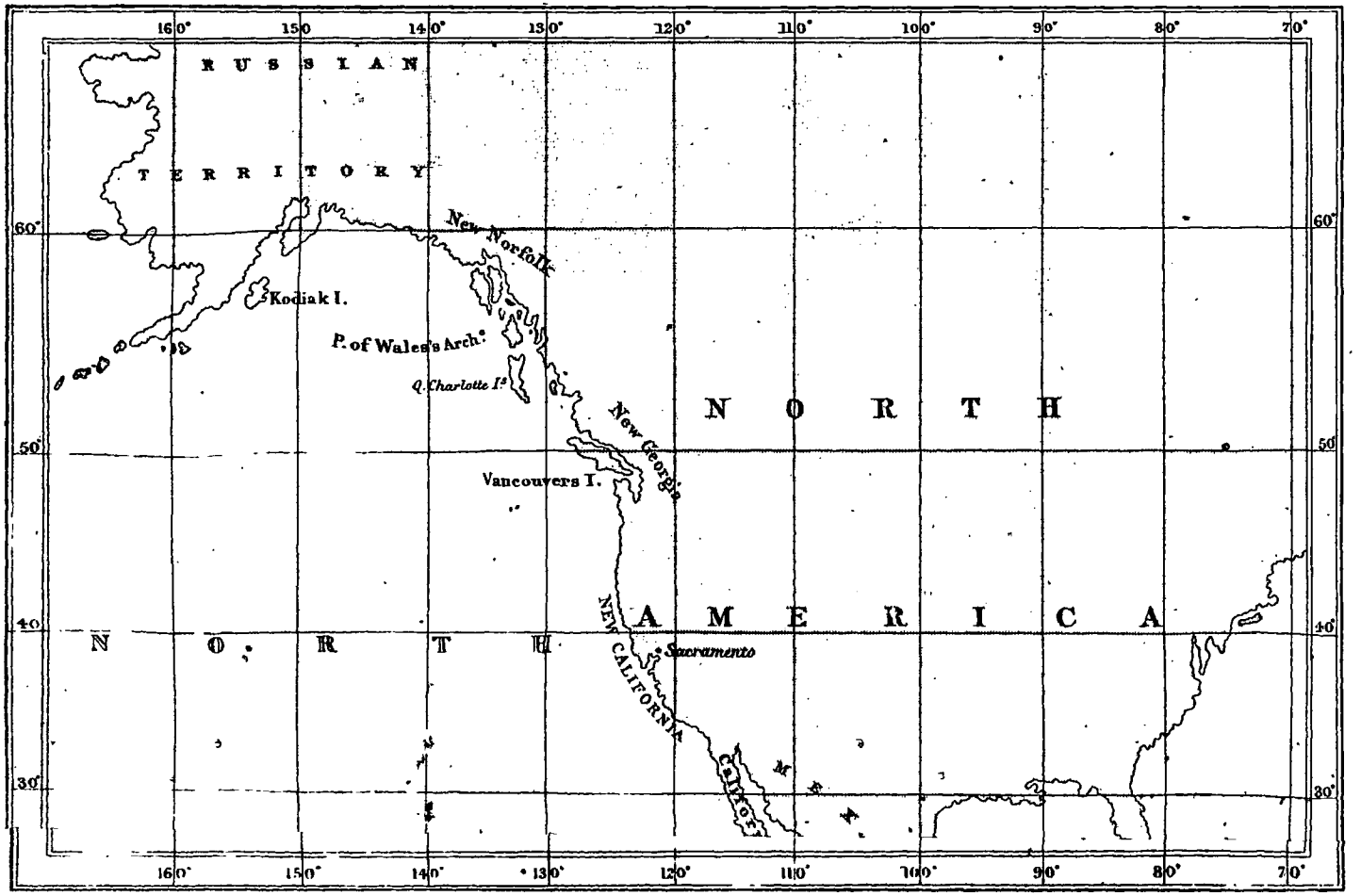
The daily loss of service from fevers, including the exanthemata, was equal to about eight men, or in the ratio of 3· per 1,000 of force; the daily sick-rate from diseases of the brain and nervous system was ·2; from disease of the organs of respiration, 4·; of the heart and bloodvessels, ·6; of the alimentary canal, 1·5; of the liver, ·3; of the genito-urinary organs, almost altogether venereal, 7·9; from rheumatism, 5·2; diseases of the bones and joints, ·4; of the special senses, ·4; of the skin and cellular tissue, chiefly boils, abscesses, and ulcers, 13·1; from dyspepsia and debility, 1·; and from wounds and injuries of various kinds, and hernia, 8·3. The total number of men daily sick was 131·2, which is in the ratio 49·8 per 1,000 of mean force, which is slightly above the sick-rate of the preceding year.

Fevers.—There were 210 cases of continued and remittent fever, thirty of ague, seven of small-pox, and one of scarlatina under treatment during the year. The average duration of each case of primary fever was about ten days; of each case of ague, about eight days; of each case of small-pox, eighty-six days; and of the case of scarlatina, eighty-eight days.

Continued

(To face p. 152.)

PACIFIC STATION.



(To face p. 152)

PACIFIC STATION.

Continued and Remittent Fever.—There were forty-four cases of primary fever in the Alert. Eight of these are classed as remittent, and the remainder as ephemeral. The average duration of each case of remittent fever was about eighteen days, and of the ephemeral variety between six and seven days. A very severe case of remittent fever occurred in the person of a petty officer of this vessel in the month of May, as the result apparently of exposure at Mazatlan, where he had been on shore on leave. He became delirious on the fifth day. On the ninth day there was considerable hæmorrhage from the nostrils and mouth, and on the tenth day purging of large black scybalæ, and copious dark coloured fluid evacuations; the pulse was 84, small; the respiration, 40; the tongue covered with a black dry fur, cracked in places. During that night he was freely moved, but he slept for four hours, and on the following morning was much improved in appearance; there was no return of hæmorrhage; the thick black crust on the tongue was softening, and coming off at the tip and edges, and here and there in the centre. The respirations were 36; the pulse 76, full and firm; and the skin moist and cool. There had been very little perspiration. The urine was loaded with urates and phosphates. After the hæmorrhage and purging, which appear to have been critical, he made a rapid convalescence.

In the Michaelmas quarter, when the ship was lying for a time at Guaymas, there were two cases of remittent fever, and five of an ephemeral type, all of which were attributed to malarial influences.

There were seventeen cases of primary fever in the Cameleon, all of an ephemeral character apparently, the average duration of each being five days. In some there was a good deal of exhaustion, and some were complicated with diarrhœa; but on the whole they do not appear to have been of much importance. The same may be said of the cases of primary fever in the Clio, fifty-seven in number, all of which were of a mild and ephemeral character.

The cases of primary fever in the Columbine and Devastation were of a very mild type.

In the Leander there were ten cases of primary fever, one of which proved fatal. They all occurred in the early part of the first quarter of the year, when the vessel was at

Callao;

Pacific Station.

Callao; and the surgeon* makes the following remarks upon them:—

". . . . they were of pretty much the same type as those of last year, and were all accompanied with great debility, and a disposition to run into typhus. The fatal case was progressing very favourably, when by incautious exposure to a damp current of air, he contracted pneumonia, from the effects of which he died. . . . . Another case of continued fever went on into low typhus in the person of an officer who was delirious for some days, had some epistaxis and sordes on the lips. He made a protracted convalescence. In two cases an active emetic was given on the onset of the disease, as the excitement was very great, and the quantity of bile removed from the system in this way was remarkable. Still the strong tendency to debility that was found to prevail made me hesitate to employ so depressing an agent indiscriminately, while I fully admit its efficacy in certain cases."

In the Mutine the cases of primary fever were trifling; and in the Nereus, in which there were four cases, although two of them were each upwards of thirty-six days under treatment, no allusion whatever is made to them. In the cases occurring in the Scout and Shearwater there was nothing of a noteworthy character.

There were seven cases of primary fever in the Sutlej, with reference to which the surgeon† of the vessel says:—

"Cases of fever were very rare, and comparatively unimportant during the year. In the month of March, while the ship was at Callao, three cases occurred. The first was in a petty officer, who was ill in all twenty-five days; the second in a mess servant, the case being very mild; and the third in a boy who was thirteen days under treatment. They were all cases of simple continued fever unconnected with any very obvious cause. After these, no cases occurred until August, when several appeared simultaneously among a small portion of the crew employed ashore at the admiral's house, and although they were comparatively mild, they were so obviously connected with a specific exciting cause as to merit notice, a defective condition of the drainage appearing to supply the poison. The house is situated close to the beach on a low and swampy soil, and but scanty inclination for the drains, which were just then in a very faulty condition, as was manifest for some days by the foul and offensive smells emitted everywhere from the waterclosets. The main sewer, in fact, ceased to discharge, and within a few days most of the servants became affected with febrile symptoms, which were of precisely the same character in every case. They suffered from severe nervous prostration, a pungently hot skin, quick pulse, headache,

* Surgeon Wm. Henry Clarke. † Surgeon Wm. Patrick.

ache, and intense pain across the back and loins. About the third day delirium set in with a dry foul tongue, and after eight days the fever abated, and in every case there was a quiet and good convalescence." Pacific Station.

There were thirty-three cases of primary fever in the Tribune, twenty-nine of which are classed as remittent, and four as febricula; the latter, however, appear to have been of the more severe or protracted character, each case having been, on an average, sixteen days under treatment, while each of the cases classed as remittent only averaged six days under treatment. The majority of the cases occurred in the Michaelmas quarter of the year, when the vessel was at Panama. The surgeon,* in remarking on them says:—

"They set in at Tobago. The first case was entered on the 25th of July, and they continued to recur at intervals until the 15th of October. Of the whole, twenty-one were primary; one man had seven, one three, and one two attacks. Sixteen occurred before leaving the anchorage at Panama, and five off San José Gautemala, at Ponta Arenis. The anchorage is an open roadstead. We watered between the 12th and 20th of September. Remained five days at Realejo, a good harbour surrounded by low swampy land, but the men had no communication with the shore, excepting on the ordinary boat duty of the ship, and as three of the five cases occurred in petty officers who had not been out of the ship since leaving Panama Bay, I am of opinion that the seeds of the disease were laid at that place.

"The fever differed in character from most of the remittent fevers I have seen, and the first few attacks are likely to deceive a medical man. It will last, for example, from thirty-six to forty-eight hours without a remission; by acting freely on the bowels, and following up the purging with salines, it will pass off in moderate perspiration, leaving the patient to all appearance, well, but only to recur on the third day with redoubled violence, endangering the life of the patient, thus assuming the tertian type in a bastard form. The three first cases that occurred assumed these characters on the second attack. The stomach became irritable, the headache severe, the skin was dry and hot, and the patient was restless and sleepless. One had most obstinate constipation, and none of them suffered from diarrhœa. Slight delirium was observed, and there was scanty secretion of urine. These alarming symptoms continued from five to ten days, and it was only by careful watching and nursing they recovered.

"Morphia and chloroform I have employed to procure sleep, but without effect. Opium can be given with great advantage at a particular stage, but I can lay down no rule as a guide for its administration.

* Surgeon Robert Irvine,

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tration. Quinine alone, at the onset of an attack, or before the fever subsided, failed in my hands, but combined with calomel, in the proportion of five grains of each for a dose, may be given at the commencement with great advantage. It seemed to modify the type of the fever, and by following it up with two five-grain doses of quinine in the next twenty-four hours, and keeping up a free action of the bowels by means of saline aperients, a second paroxysm was usually warded off. In estimating the quantity of quinine required to prevent a second paroxysm of this fever, fifteen grains seemed the minimum, administered in the way I have stated.

"The natives at Tobago suffer a good deal from fever of a remittent character. The first paroxysm lasts, generally, from three to five days, but they do not seem to dread a second, and may escape with impunity for a season. They seek our aid and take our medicines, which, no doubt, cut short the attack; but they seem to get over it equally well when left to themselves, their treatment being purgatives, diaphoretics, and small blisters to the temples, to relieve headache I presume.

"Three out of the four cases classed under the head of febricula, terminated in suppuration of the inguinal glands, increasing the average days' sickness of each to twenty-one days. They set in very much like ordinary catarrh, but the general health of the patient ultimately suffered very much."

Small Pox.—Seven cases of this disease occurred in the squadron, and in all it was of the modified variety, the persons affected having been vaccinated in early life. The disease was prevailing in an epidemic form at Valparaiso, at which port three cases occurred.

Scarlatina.—A single case of this exanthem occurred in the person of a young officer of the Tribune at Esquimault, Vancouvers Island. The disease was very prevalent on shore, and he appears to have had ample opportunities of contracting it. The case was one of great severity at first, delirium and coma having supervened on the second day. On the third day the eruption was well developed on the chest and extremities, and he was discharged to hospital, where he ultimately made a good recovery.

Diseases of the Brain and Nervous System.—The ratio of cases of disease coming under this head was more than double that of the preceding year; there is also an increase in the ratio of invaliding to the extent of nearly one-third. The increase in the death rate is very small.

A case of ramollissement of the brain ran a very rapidly fatal course in the person of a mess servant of the Columbine.

For

For a day or two previous to his being placed on the sick list he had been observed to be very peculiar in his manner, and presented a stupid appearance. On the day of his admission to the list he became incoherent in his speech, and when spoken to only looked with a heavy unmeaning gaze. He did not appear to suffer pain. On the following day he became almost insensible, and next day he was much worse, sordes collecting about his lips and teeth. The urine was sometimes passed involuntarily, and sometimes had to be drawn off by catheter. There was partial paralysis of the lower rectum; he was not delirious. On the third day after his first serious symptoms he was discharged to the English hospital at Valparaiso, where he died on the thirteenth day. The following report of the autopsy is by the surgeon* of the ship.

"On sawing through the bones of the calvarium they were found to be remarkably thin. The frontal sinuses were very large, nearly three inches across. The dura mater throughout was abnormally thick, but this did not seem to be the result of previous inflammation. There were no signs of extravasation or effusion either on the surface of the cerebral hemispheres or in the ventricles, and no cerebral congestion. The cerebellum was entirely softened and disintegrated. This lesion seemed to be of long standing."

Epilepsy.—No fewer than twenty-four cases of epilepsy occurred in the squadron during the year, which is in the ratio of 9·1 per 1,000 of force, being the largest ratio that has occurred on this station for many years.

In the Alert five cases are entered, three of which are classed as epilepsy, and two as epileptoid spasms. All these cases appear to have occurred shortly after the reception on board of an invalided marine of the Sutlej. The surgeon† of the Alert says:—

"On the 4th of September, at Mazatlan, at three a. m., a marine of Her Majesty's ship Sutlej, received on board the Alert as an invalid for a passage to Panama, fell from his hammock in an epileptic fit. This disease always produces excitement, astonishment, and sympathy, and the occurrence of one case on board ship is apt to be followed by a second or others. It may be set down as a cause predisponent and excitant, for among boys and young men, in schools, ships, and prisons (not to mention hysterical girls), true and

* Dr. John W. S. Meiklejohn. † Surgeon F. W. Davis.

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and simulated epileptiform convulsions often occur after their minds have been agitated by the first sight of this terrible disease."

And again—

"Two cases of epilepsy were invalided. In one, slight paralysis of the forearm was noticed; in the other there was hereditary proclivity to the disease, and he had had an attack previously in the Clio. The occurrence of epileptic convulsions on the lower deck, in an invalid received on board at Guaymas, must be considered as likely to have induced attacks in both these cases, and in at least one of the two cases registered as epileptiform, viz., in a boy, probably from moral causes, nervous excitement, and a certain amount of hysterical sympathy, and in a young seaman suspected of malingering, and treated accordingly. Both have been for six weeks free from seizures."

There were three cases of epilepsy in the Leander. One of these occurred in a young man of a very delicate habit of body, and was considered to be dependant upon vicious habits. Another case was that of an officer of somewhat irregular habits, who had been formerly invalided for the same disease; he was again invalided on this occasion. No information is given with respect to the third case.

In the Sutlej eleven cases of epilepsy appear in the returns, but seven of these seizures occurred in one man, and three in another, so that in reality there were only three persons labouring under the disease. Both the men in whom the attacks recurred so frequently were powerful athletic men, gunners of the Royal Marine Artillery; in both the disease appears to have been hereditary, and both were invalided.

Apoplexy.—Two cases appear in Table 1. under this head, both of which were the result of insolation. In one that occurred in the person of a seaman of the Alert, the attack came on at Guaymas, when he was aloft furling sails, the thermometer being 94° in the shade; he had been exercised at general quarters before going aloft. The surgeon's report and remarks on the case are as follows:—

"When seen, 18th August, 11.30 a.m., his shirt and trousers were wet from perspiration, his skin was hot and dry, his muscles stiff and rigid; there were no convulsive movements, a white froth escaped from his mouth, which he blew into bubbles at each expiration; the breathing was stertorous; he was insensible; the pupils were dilated, the heart's action fluttering, the pulse small and intermitting. Here there were, 1st, the muscular system fatigued by exercise; 2nd, the nervous energy exhausted; 3rd, the blood deprived of serum

serum by the hot and dry atmosphere; there was probably retardation of the thickened life current, the cardio-pulmonary functions being impeded and arrested in proportion as the cerebral congestion increased. The indication of common sense, therefore, was to endeavour to supply serum to the blood. I had the patient placed on deck, his dress removed, and his head supported over a flat tub, and a full stream of cold water poured over his head and chest for some minutes; he sighed deeply; the cold douche was continued and cold water was held to his mouth, some of which he swallowed. In about half an hour he ceased to breathe stertorously. The pulse became fuller and slower, the heart's action less fluttering, but he was still insensible; he sighed frequently, and put his hands to the top of his head as if in pain. I had his hair cut short, and continued the cold douche and drink. Towards evening the pupils were less dilated, and he replied sluggishly when addressed in a loud tone. 19th. Sensible; complaining of severe pain on the top of his head; skin hot; pulse full and quick, ninety-four; tongue white. Six grains of calomel were placed on his tongue, and four hours afterwards he got a black draught. The cold douche was applied less frequently. 20th. Better; headache less; bowels still confined; skin moist; pupils dilate, and contract naturally; is perfectly sensible. To have a saline aperient draught repeated until the bowels are moved. 21st. Headache; vertigo. Bowels moved largely and freely; tongue clean. To have beef tea; cold water and the citrate of potass mixed ad libitum. 23rd. Pain in vertex still continues; pulse quick; skin hot. One-third of a grain of podophyllin and ten grains of bitartrate of potass, to be taken three times daily. 25th. Bowels freely moved; no pain or pyrexia. Two grains of quinine to be taken three times daily. 27th. Quite well. To duty.

Dr. Stiles, writing in the Boston Medical and Surgical Journal for May 1864, gives the details of some experiments which led him to the conclusion that sunstroke is a paralysis of the heart due to the direct action of the heated blood upon its muscular tissue. In one case, however, he induced death, with all the symptoms of sunstroke, be, immersing a rabbit in hot air (not over 120° Fahrenheit, less than the temperature of the external air in the sun at Guaymas). This, although it does not prove his point, is interesting in so far as it defines precisely the essential elements in the causation of sunstroke, limiting them simply to a hot and dry atmosphere, relieving the direct solar rays, their actinic and luminous constituents, and muscular exertion, from all charge save that of being accessory. Dr. Smart, U. S. A., author of an able report on sunstroke as it occurred in the army of the Potomac, defines the disease to be a condition resulting from a condensation of the serum of the blood, and shows that cold water most readily supplies the wants of the system.

In one or two cases of apoplexy in intemperate men on the West Coast of Africa (where sunstroke is rare, owing to the great humidity of the heated air), I performed venesection before death. The blood was black and did not flow freely, it oozed like tar from a punctured vein. Recollecting these cases, and knowing the good effect of the cold douche in epilepsy, in drunkenness, and in hysteria, with each

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of which diseases this case had alliances, and from each of which it was readily distinguishable, I employed the cold water as above; and I shall adopt a similar plan in any case of the kind I may hereafter have to treat."

About the same time that the above case occurred, and at the same place, a large number of cases of what are termed in the return "Exhaustion from Heat," were placed on the sick-list of the Cameleon. They are entered under "Vertigo" in Table I. The assistant surgeon* of the ship makes the following observations with reference to these cases:—

"The sudden change from a temperate to an intense tropical climate was followed by an immense amount of sickness. From the time of leaving Vancouvers Island to entering the Gulf of California, only five men were added to the sick-list; in the remaining half of the month the number was thirty-four. The effect of the sudden rise of temperature on the 14th of August was shown by the almost immediate supervention of cases, to which the term 'exhaustion from heat' seemed to be most suitable. Diarrhœa commenced to occur towards the end of the month.

"The heat of both air and water at Guaymas was most intense, and according to the assertion of the residents most unusual. It was comparatively damp, and the close sultry nights were very trying to the whole ship's company. In order to obtain the full benefit of the land and sea breezes, the ship was swung broadside to the wind. During our stay at Guaymas the majority of the officers and men slept on deck without awnings being spread. The men's dinner hour lasted from 11.30 a.m. to 2.15 p.m.; no duty was performed during the heat of the day, save under the shade of the awnings; all drill was suspended; the men were allowed to bathe almost daily, in fact, everything that experience could suggest was put in force to lessen as much as possible the injurious effects of such a climate. Fresh meat was obtained of most excellent quality, and in consequence of the water from the shore being brackish, condensed water alone was used for cooking and drinking. On shore, diarrhœa was very prevalent, chiefly among the young, with whom it was fatal in many cases. Boils also were very common, and in some cases proved fatal with children. The sickness and mortality among the French troops then in occupation of the town was considerable; I was unable to ascertain definitely the chief cause of mortality, but there were several undoubted cases of heat apoplexy, which, considering the intense heat, and the fact that their dress differed in no respect from that worn in France, can cause little suprise. They were also supposed to suffer greatly from the very deleterious spirit or concoction sold to them as absinthe.

"Under the heading 'exhaustion from heat,' fifteen cases were placed on the sick-list. Several more were affected, but owing to their occurring late in the day, and recovering before the next morning, they

* Dr. Alexander Turnbull.

they were not entered on the sick-list. The first cases occurred on the morning of the 15th. They were all marines, and as they alone of the ship's crew were unprovided with white cap covers, and were affected when on deck in the forenoon, we may fairly conclude that the direct influence of the sun was the cause of their sickness. White cap covers were at once issued to the marines. The general symptoms were those of great prostration, pallid countenance, profuse cold perspiration, headache, vertigo, soft slow pulse, whitish tongue, thirst, anorexia. In one case, that of a stoker, there was cardiac pain with palpitation, followed shortly by violent convulsions lasting for two hours, and leaving the patient much debilitated. The ratings and ages of those affected were: one assistant engineer, aged twenty-eight; one ship's cook, aged fifty; one boatswain's mate, aged forty-three; one captain of the forecastle, aged twenty-seven; one leading seaman, aged twenty-eight; seven stokers, whose ages were thirty-three, thirty-one, thirty, twenty-four, and twenty-three; and three marines, whose ages were from twenty-nine to thirty-two. They all recovered under the use of tonics and rest, the duration of their sickness ranging from one to ten days."

The average duration of each of the cases of exhaustion from heat placed on the sick-list in this vessel was about ten days.

Delirium Tremens.—There were twelve cases of this degrading disease under treatment in the squadron during the year, of which one proved fatal. Four of these, including the fatal case, occurred in the persons of commissioned officers; one in a petty officer; one in an able seaman; two in marines; one man belonged to the carpenter's crew; one was a stoker, one a bandsman, and the rating of one man is not given.

Diseases of the Organs of Respiration.—There is a considerable reduction in all the ratios coming under this head as compared with the preceding year. There was no mortality from phthisis during the year, a circumstance probably attributable to the fact, that the vessels of the squadron, in which cases of the disease existed, were stationed in localities affording facilities for removing the patients from the station.

There were two fatal cases of pneumonia in the Scout. This disease appears to have assumed an almost epidemic character in the ship, from the middle of October to about the middle of November, when she was at anchor of Valparaiso. Upon this subject the assistant surgeon* makes the following remarks:—

"During the period of the ship's stay at Valparaiso, from the middle of October to about the middle of November, diseases of a congestive

* Assistant Surgeon William Carmichael.

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gestive character, affecting alike the abdominal and thoracic viscera, bore a very large proportion to other diseases, and presented such peculiarities as will form an excuse for a few observations. Of course diarrhœa was rife for a time, and eight cases were sufficiently severe to be put on the sick-list, more than one of which assumed all the characters of cholerine, and required most active treatment. One case in particular, when brought under observation, was nearly in a state of collapse, and it was a considerable time before reaction set in. However, these attacks, sharp for the time, made a rapid and good recovery, leaving no bad effects; and their occurrence is not to be wondered at, when the sudden change of the whole mode of life is borne in mind. When a large body of men are suddenly removed from a life of exposure, privation, and monotonous diet to one of comparative ease and a varied diet, some such results must follow; but a large proportion of other diseases, as pneumonia or congestion of the liver, is not so easily accounted for. The former appeared to assume an epidemic form, and presented some rather remarkable and curious features worth noticing. The symptoms in all were considerably masked at the commencement of the disease, and those which were constantly present were of a nature tending rather to mislead than to form a guide to a correct diagnosis. It was ushered in with a rigor, but in each case pain was originally referred to the epigastrium; the stomach was invariably in a most irritable state, and it was not until a period of from twenty-four to forty-eight hours that the gastric symptoms began to subside, and pain was referred to the base of the lungs. Then, on examination, the physical signs of the first stage of pneumonia were found to be present, and the disease followed its usual course. In all, the pleura was more or less affected, and, in the case which appears in the return as pleuritis, that disease was complicated with pneumonia, and perhaps it would have been a better arrangement to have classed the whole under the single heading of pleuro-pneumonia. It was undoubtedly one and the same disease, only, as frequently happens, in some cases the pneumonic symptoms were most marked, whereas, in others, the pleuritic were the most prominent, and the nomenclature of a disease really the same is taken either from that portion of it, as it were, which is first detected, or which, from its symptoms or physical signs, becomes of such importance as to engross the attention and direct the treatment. In many respects the disease bore a considerable resemblance to that which occurred in an epidemic form in some of the ships of the Mediterranean squadron in 1860. The principal points of similarity were its frequent occurrence in enfeebled constitutions, and its association with certain scorbutic affections, as well as a marked tendency to diarrhœa throughout all the stages of the disease. The terminations were by no means satisfactory. One was discharged to sick quarters, and died within twenty-four hours; another case, complicated with pericarditis, ended fatally a few days after going to sea; in a third, the affected portion of the pulmonary tissue became the seat of tubercle; the fourth became complicated with obscure cardiac symptoms and a cachectic state of constitution; the fifth resembled the fourth; and, of the eight cases which occurred, only three can be said to have made anything like a satisfactory recovery.

"Of

" Of the causes which produced such a large number of cases of a similar nature, it is difficult to arrive at anything like a correct conclusion. There was no evidence of the disease being in any way communicable from man to man, nor indeed was there any to the contrary; but, in the absence of any such direct evidence some other causes must be looked for to account for such an unusual amount of pulmonary disease, and other diseases of a congestive character affecting the internal organs. Of these causes, the one which had perhaps the most influence, contradictory as it may appear, was the change from cold to comparatively warm weather, aided materially by the great variation of temperature between day and night at that particular season of the year. Added to that, on running within a limited period from severe cold into a milder climate, the heat is felt in far greater proportion than if the change were more gradual, and consequently men who have been warmly clothed, to resist the inclemency of the weather while in the south, are apt to remove more of their clothing than is prudent, the heat being felt oppressive from the mere suddenness of its introduction. Such exposure, then, combined with the contrast of temperature between day and night, and the liability to over-ventilation after so long confinement, acting on a constitution debilitated by a long sea voyage, and the substitution of a varied and nutitious diet for one of comparatively the reverse, would be just the causes that might be expected to produce such result. These reasons must be, at the best, vague and unsatisfactory; but, if insufficient of themselves to account for these diseases being engendered, they must undoubtedly have exercised great influence in the favouring of them, retard their cure, and account in a great measure for their unsatisfactory termination."

In one of the fatal cases referred to above, as being complicated with pericarditis, the inflammatory action in the lung went on to the formation of an abscess, which communicated with the cavity of the pleura. The patient died on the twenty-sixth day of the disease, and the post-mortem examination of the body, as reported by the surgeon,* is as follows:—

" A copious effusion of pus was found in the left pleura, communicating with an abscess in the lower lobe of the left lung, the latter being much compressed and solidified, or in a state of grey hepatisation. There was also extensive serous effusion into the right pleural cavity; the lung on that side, however, although much compressed, being otherwise in a healthy condition. The pericardium was lined throughout with irregular masses of apparently recently effused lymph, which presented a reticular or honey-combed appearance, and the cavity was largely distended with a sero-purulent fluid, amounting to twelve or fourteen ounces. The endocardium and valves were unaffected, but the heart was considerably hypertrophied, with

* Surgeon James Sproule.

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with dilatation of its cavities. The abdomen presented no abnormal appearance save great tympanitic distension, with some patches of vascular congestion, chiefly on the peritoneal covering of the intestines.

In the Shearwater there were six cases of pneumonia, three of which occurred in the month of September, at Callao, and three in December, at Valparaiso. They are stated to have been of an asthenic or sub-acute type, and to have resembled in many features the cases which occurred on board the St. Jean D'Acre in 1860. The symptoms were pain in the chest, with sense of tightness and great lassitude, quick feeble pulse, and a dusky hue of face; with, in one or two cases, peculiar thin sputa, not viscid, as in acute pneumonia, but watery, and like plum-jam water. Phosphate of iron is said to have acted like a charm in these cases. The assistant surgeon* of the vessel, in remarking on them, says:—

"There were six cases of a peculiar form of pneumonia, peculiar in so far that they had not the pyrexia of English pneumonia, but, in its place, a low fever. It is not, however, to be supposed from the low character of this fever that the cases were of a milder type than the ordinary English pneumonia, for in a great measure the pyrexia is a proof of the activity of nature as a conservative agent. In these cases the disease was insidious in its progress, resembling, rather, some wasting disease than pneumonia, especially if mere external symptoms were regarded. The sputum was non-cohesive, consisting of the natural mucus of the windpipe and blood from the lungs. It presented the appearance of muddy claret. In every respect the disease was an exact counterpart of English pneumonia, in its pathological states."

Diseases of the Heart and Bloodvessels.—There is a reduction in all the ratios coming under this head, as compared with the preceding year. There were twenty-six cases of functional and organic disease of the heart, of which five were invalided and two died. Many of these cases were doubtless the sequelæ of rheumatic disease, but how many it is impossible to say, no previous history of the patients being given in the great majority of instances.

A fatal case of heart disease occurred in the person of a leading stoker of the Clio. He had fainted in the stoke-hold, and when seen a minute or two afterwards was recovering from that condition. He had been removed to the main-deck, where vomiting set in, accompanied with acute pain over the lower part of the chest, with extreme lividity of countenance and coldness of the skin. His pupils were dilated,

* Assistant Surgeon Alexander Yule.

lated, and there was an exudation of frothy mucus from the mouth. It was at first thought that these symptoms were referable to fish poisoning, a large quantity of fish, several of whose species had not been ascertained, having been caught and eaten that day by the ship's company; and the patient was ordered an emetic. His breathing gradually became more hurried, and occasionally he cried out from the severity of the pain; but its exact situation could not be ascertained from the manner in which he writhed about. An hour after he was first seized his pulse could no longer be felt, and shortly afterwards he became insensible, and died. The following report of the post-mortem examination of the body is by the surgeon* of the ship:—

"On opening the cavity of the thorax, the enlargement of the cardiac viscus was apparent. When the pericardium had been divided, considerable hypertrophy of the left ventricle appeared. The auricular cavities were found to be dilated with blood, and the left ventricle was not only dilated but thickened in comparison with the right ventricle, which presented a pale and somewhat flabby appearance. Insufficiency of the aortic valves was also disclosed, and a thick calcareous deposit was found to exist between the valvular membranes forming almost a rigid diaphragm between the cavity and the vessel. The aorta itself was healthy and free from deposit. The heart when removed from the body weighed 26 ounces, but on being opened, and all the blood removed from its cavities, the weight was only 16 ounces. The stomach also was examined, and some fish and onions found in an advanced state of digestion, while the villi of the stomach were neither inflamed nor congested. The liver was healthy, as also were the other viscera."

A stoker of the Tribune, long the subject of valvular disease of the heart, died in the Naval Hospital at Esquimault. The fatal event was accelerated by an attack of pericarditis. When he presented himself there was great dyspnœa, with a dry, harassing cough. The pulse was 125, weak and irregular. The heart's action was much excited, and accompanied with a complication of abnormal sounds so loud as to obscure altogether the natural sound. Under the treatment to which he was subjected he was somewhat relieved, but discharged to hospital, where he died a few days afterwards.

A marine of the detachment at San Juan, who had been under treatment for pain in the lumbar region, aggravated on pressure over the spinous processes of the first and second lumbar vertebræ, and extending round the abdomen, from which

* Surgeon W. G. Hill.

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which, however, he had so far recovered as to be enabled to resume his duties, was again admitted to the sick-list, complaining of palpitation of the heart, and pain under the left nipple. Digitalis was prescribed, and under this treatment he appeared to be progressing favourably; the pain had ceased, the palpitation had greatly diminished, and on the evening previous to his death he had retired to bed feeling very much better. On the following morning he was found dead in bed. On examination of the body after death, the left cavity of the chest was found full of coagulated blood compressing the lung, and displacing the heart. On removing the blood, an aneurism of the thoracic aorta, about two inches in diameter, was discovered, the sac firmly adhering to the diaphragm, pericardium, and lower lobe of the left lung, and communicating with the cavity of the chest by means of an opening large enough to admit the little finger.

Diseases of the Alimentary Canal.—There is a slight reduction of the ratio of cases coming under this head as compared with the previous year.

There were three cases of dysentery and thirty-two of diarrhœa in the Alert. They occurred, for the most part, towards the latter end of July, and in August, at Guaymas. When the disease first presented itself, it was attributed to over-indulgence in grapes and water-melons, the only fruits obtainable; but afterwards it appears to have been considered to be owing to solar heat and malaria. The surgeon says—

"There were three classes of cases; 1st. Those of diarrhœa, with nausea and headache; 2ndly. Those with diarrhœa of a choleraic kind, coldness of the surface of the skin and extremities, cramps, and rice-water stools; and 3rdly, cases in which febrile symptoms predominated, such as supra-orbital headache, hot skin, quick full pulse, hurried respiration, præcordial distress, a coated tongue, and nausea, usually preceded by a sense of lassitude and chills. In many of these cases, scalding of the urine was complained of, and the urine when examined was found to contain uric acid and urates in excess. 'My usual treatment was to give a full ipecacuan emetic, and to follow it up with five grains of blue pill or calomel, and a dose of castor oil, or a compound rhubarb draught; hot fomentations and sinapisms to the abdomen; and for diet, beef-tea, rice, milk, and arrowroot. In the febrile cases after the emetic and aperient, to give four grains of quinine in water three times a day, the citrate of potass drink *ad libitum*, and an appropriate regimen."

The average duration of each case of diarrhœa was about five days.

In

In the Cameleon, in which there were three cases of dysentery and fifty-six of diarrhœa, the greater part of the latter disease occurred in the Michaelmas quarter of the year, after the arrival of the vessel on the coast of Mexico. Some cases which occurred in June are said to have probably arisen from the use of Frazer River water which had been used and taken in there. At the season when the ship lay there, the river was much swollen by the melting snows, carrying down a large quantity of earthy and vegetable matter, and it was thought that this might have rendered it unwholesome, which it is not at other seasons. Off the coast of Mexico, this affection is said to have been attributable to the same causes as induced the febrile attacks to which the ship's company were subject there. It is said also to have been exceedingly prevalent at the same time at Guaymas, and to have been not unfrequently fatal there, occasionally assuming a dysenteric character, as it did also in some of the cases on board the Cameleon.

In the other vessels of the squadron, the cases of disease belonging to this class do not call for any notice.

Diseases of the Genito-Urinary Organs.—There is an increase in the ratio of cases coming under this head, as compared with the previous year, to the extent of 9·2 per 1,000 of mean force. There is a considerable reduction, however, in the ratio of invaliding occasioned by them. There is very little to be said with regard to these affections that has not been previously said in former reports on this station. A very large proportion of the cases was due to contagion at Valparaiso, which is a very hotbed of this loathsome form of disease, although it is difficult to comprehend why it should differ so greatly in this respect from Callao, where there is an equal absence of surveillance of prostitution, but where venereal diseases are comparatively rare. This has been already alluded to in the Statistical Report of the Health of the Navy for 1864; but it appears desirable to keep it prominently in view, its bearing upon the general economy of the squadron in reference to the particular localities which should be selected for giving leave to the ships' companies being very important. The surgeon of the Leander says:

"The contrast of a ship remaining at Valparaiso and giving leave, as compared with Callao, is very much in favour of the latter, in so far as the effects of venereal diseases are concerned. Eleven of the cases enumerated in the adjoining tables arose within a month at Valparaiso, while for nine months at Callao we had but eight cases,

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and five of these were imported from other places. At neither port does their exist any registration or examination of prostitutes, and certainly this class of females exists to a prodigious extent in Callao, which also contains a larger native garrison and fleet than the Chilians have. There is also a numerous collection of merchant ships of various nations lying at anchor there, and why so marked a difference between the two places should be found, I am at a loss to explain."

Of the prevalence of syphilis in Mexico, the surgeon of the Alert says:

"No case of syphilis was added during this quarter. This is apparently, but not really, opposed to the general opinion as to the prevalence of syphilis in Mexico. Constitutional syphilis is common. Prostitutes are seldom seen in the streets, not because the women are more virtuous than elsewhere, but, owing to the general laxity of morals, prostitution is not a specialité. Besides, one attack of syphilis affords a certain degree of immunity from a second, and although constitutional or secondary syphilis is communicable, it is greatly less so than primary. These considerations go to explain why occasional visitors often come away unscathed and untainted from places like Guaymas, where, to use the sweeping statement of a French authority, 'the women are all diseased.'"

Of Honolulu and Esquimault the surgeon of the Clio writes—

"During a stay of twenty-seven days at Honolulu, where a registration of prostitutes has, within the last year or two, been enforced, though privileged and general leave was freely given to the ship's company, one mild case of gonorrhœa was the only bad result that ensued; while, previous to this enactment, a Russian man-of-war sailed from the same port with seventy cases of venereal disease.

"At Esquimault the results attending the grant of leave, sometimes of four days' duration, has been fortunate as far as venereal diseases are concerned, and though the roads from Esquimault to Victoria swarm with squaw prostitutes of a low class, but few cases have come under my care. It is the custom of the northern seaboard tribes to send to Victoria their wives and daughters as prostitutes, to afford themselves the means of purchasing intemperance. Each season these women return bringing back their gains and their diseases, and the rapid dwindling away of the Indian tribes must necessarily follow these twofold crimes."

In Table IV., under the head of Nephritis, a death appears in the Leander. The cause of death is said to have been that peculiar form of disease known as the "Morbus Addisonii." The subject of it was a man who had been frequently under treatment during the year for catarrhal affections and debility. He was kept at special light duty for a long time, as the peculiar dark hue of his skin had at an early period attracted attention. He himself, however, expressed no alarm about it,

it, as he stated that a year previously, when serving in China, he was just as much bronzed, and that on his return to England he became clear and of his natural colour. He was a man bearing an excellent character, and very anxious to perform the duties of his rating. On the 6th of February he was put on the sick-list, with extreme debility; his voice was sunken and hollow; the pulse small and frequent; there was great emaciation; the appetite was entirely gone; the calls to make water were very pressing, the fluid passed being free from albumen, but highly alkaline; the colour of the skin on the face, neck, and shoulders was positively black, while that of the remaining portions of the body was a deep bronze. The respirations were hurried, but the lungs and heart were found healthy on repeated and careful examination made by different medical men. He was dry-cupped over the loins, and ordered to take the perchloride of iron and quinine, and supported with broths, animal jellies, porter, wine, &c. At times he was affected with severe and distressing hiccough, which was relieved by chloric æther and compound tincture of camphor. This symptom generally prevailed at night. He was ultimately invalided, and died at Panama, on his passage to England. Unfortunately no post-mortem examination of the body appears to have been made.

Rheumatism.—The ratio of cases of this disease is precisely the same as occurred in the previous year, but there is a reduction in the ratio of invaliding. Admitting that a certain number of these cases had their origin in a syphilitic taint, and were consequently not in any way attributable to climate, it is still notorious that the Pacific, as has been repeatedly observed, is very obnoxious to persons susceptible of this disease. In how many cases disease of the heart results as a sequela of rheumatism, as it appears in the Pacific, it is not possible to say, for no conclusions can be drawn on this point from the very few cases in which the supervention of cardiac symptoms is distinctly recorded. The results obtained from the use of the stethoscope on board ship are at all times meagre, and in a great many cases, where a delicate appreciation of sounds is necessary, they are by no means reliable. The noises inseparable from a ship of war are utterly inimical to accurate stethoscopic diagnosis, and this may perhaps account for the few instances in which the commencement of cardiac complication in rheumatism is recorded. On the other hand, the form of rheumatism which prevails on

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this station is, as a rule, by no means acute, and is not of that character which commonly superinduces heart disease.

Wounds and Injuries.—One man sustained fatal fracture of the skull by falling from aloft, and a similar result followed in another instance by a man falling from the upper to the main deck. In this case the formidable nature of the injuries the man had received were not realised at the time, nor was the accident even reported to the medical officers. From what was afterwards ascertained, it appeared that he had been moving heedlessly about and tumbled down the skid gratings, striking his head, as was supposed, upon the cable. He was taken up insensible and carried to his mess, where he rallied after a time, and went to bed. The next morning he got up as usual, and after breakfast landed with a working party employed on shore, and remained there all day, and it was only after their return, about sunset, that he reported himself at the sick bay. He looked then bewildered and stupid, but was sufficiently collected to describe accurately his fall of the previous evening, and added that he felt unwell ever since. With the exception of an ecchymosis on the temple, no external mark of injury was perceptible, but he was unusually taciturn, and looked stupid; his skin was cool; the pulse suspiciously slow; and the pupils rather dilated and inert. He complained of oppressive headache, and looked generally unwell. He was put to bed, five grains of calomel given him, and an evaporating lotion applied to his head, the hair being removed. During the night he got much worse, and towards the morning convulsive fits and coma supervened. The fits continued at irregular intervals, and the comatose condition was persistent for four days, when he died suddenly. Post-mortem examination of the body revealed extensive fracturing of the skull. There was a transverse fissure extending for nearly four inches across the upper angle of the occipital bone, and from the extremes of this fissure, both on the right and left side, a vertical one through each cerebellar fossa, continuing along on each side of the foramen magnum into the corresponding portions of the right and left temporal bones, and only terminating after running across the centre of the petrous portions. Notwithstanding these extensive fractures there was not the least displacement of bone nor any external wound, so that the grave character of the injury could not have been suspected. Laceration of the sinuses and extravasation of blood had taken place at several points of the fissuring.

Seven

Seven men were drowned; one by being washed off the the cathead, one by falling overboard from the hammock netting, one by falling overboard from a main deck port, and one is supposed to have fallen overboard from the bridge. Three men were drowned by being capsized in the surf.

The total number of deaths was nineteen, being in the ratio of 7·2 per 1,000 of mean force, which is little more than one-half the death-rate of the preceding year. The ratio of mortality from disease alone was only 3·8 per 1,000.

Invalided.—Two men were invalided for the sequelæ of fever; eight for diseases of the brain and nervous system, seven of whom were epileptic; sixteen for diseases of the respiratory organs, three-fourths of whom were consumptive; nine for functional and organic disease of the heart and blood-vessels; one for dysentery; one for disease of the liver; six for diseases of the genito-urinary organs; twelve for rheumatism; two for diseases of the bones and joints; one for disease of the special senses; six for diseases of the skin and cellular tissue; eight for diseases not classed; four for wounds and injuries; and seven for hernia; making the total number invalided eighty-three, which is in the ratio of 31·5 per 1,000 of mean force, being a reduction, as compared with the preceding year, equal to 4·8 per 1,000.

TABLE, No. 1.

SHOWING the Number of Cases of all DISEASES and INJURIES, and the Number INVALIDED and DEAD, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Continued and Remittent Fever	210	79·8	1	·3	1	·3
Intermittent Fever	30	11·4	1	·3	—	—
Small Pox	7	2·6	—	—	—	—
Scarlatina	1	·3	—	—	—	—
Disease of the Brain	3	1·1	—	—	1	·3
Apoplexy	2	·7	—	—	—	—
Epilepsy	24	9·1	7	2·6	—	—
Paralysis	1	·3	1	·3	—	—
Delirium Tremens	12	4·5	—	—	1	·3
Neuralgia	10	3·8	—	—	—	—
Vertigo	24	9·1	—	—	—	—
Inflammation of the Lungs and Pleura	46	17·4	3	1·1	·2	·7
Phthisis and Hæmoptysis	14	5·3	12	4·5	—	—
Influenza and Catarrh	338	128·5	—	—	—	—
Cynanche	78	29·6	—	—	—	—
Asthma	6	2·2	1	·3	—	—
Disease of the Heart, Functional and Organic	26	9·8	5	1·9	2	·7
Hæmorrhoids	9	3·4	—	—	—	—
Varix	5	1·9	4	1·5	—	—
Aneurism	2	·7	—	—	1	·3
Disease of the Stomach and Bowels	5	1·9	—	—	—	—
Dysentery	14	5·3	1	·3	—	—
Diarrhœa	276	104·9	—	—	—	—
Constipation and Colic	47	17·8	—	—	—	—
Disease of the Liver	12	4·5	1	·3	1	·3
Jaundice	5	1·9	—	—	—	—

TABLE, No. 1.—SHOWING the Number of Cases of all Diseases, &c.—*continued.*

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force,	Number Dead.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	7	2·6	1	·3	1	·3
Syphilis	161	61·2	3	1·1	—	—
Gonorrhœa	48	18·2	—	—	—	—
Orchitis	57	21·6	1	·3	—	—
Stricture	11	4·1	1	·3	—	—
Rheumatism	288	109·5	12	4·5	—	—
Gout	8	3·	—	—	—	—
Disease of the Bones and Joints	17	6·4	2	·7	—	—
Inflammation of the Eyes	27	10·2	1	·3	—	—
Amaurosis and Cataract	3	1·1	—	—	—	—
Otitis and Deafness	10	3·8	—	—	—	—
Erysipelas	7	2·6	—	—	—	—
Scrofula	10	3·8	—	—	—	—
Bubo (*Symp.*)	38	14·4	—	—	—	—
Phlegmon and Abscess	775	294·6	3	1·1	—	—
Ulcer	285	108·3	3	1·1	—	—
Psora	13	4·9	—	—	—	—
Eruptions, &c.	39	14·8	—	—	—	—
Dyspepsia and Debility	191	72·6	2	·7	—	—
Dropsy	6	2·2	1	·3	—	—
Worms	9	3·4	5	1·9	—	—
Headache	9	3·4	—	—	—	—
Wounds and Injuries	708	269·2	4	1·5	2	·7
Burns and Scalds	40	15·2	—	—	—	—
Hernia	10	3·8	7	2·6	—	—
Drowned	-	-	—	—	7	2·6
Submersion	1	·3	—	—	—	—
TOTAL	3,985	1515·2	83	31·5	19	7·2

TABLE, No. 2.

SHOWING the Number of DAYS' SICKNESS from each DISEASE, and from INJURIES, the Average Number of Men Sick Daily, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Continued and Remittent Fever	1,917	180	2,097	5·7	2·1
Intermittent Fever	222	25	247	·6	·2
Small Pox	26	577	603	1·6	·6
Scarlatina	2	86	88	·2	—
Disease of the Brain	33	14	47	·1	—
Apoplexy	12	-	12	—	—
Epilepsy	171	-	171	·4	·1
Paralysis	25	159	184	·5	·1
Delirium Tremens	63	29	92	·2	—
Neuralgia	50	-	50	·1	—
Vertigo	105	-	105	·2	—
Inflammation of the Lungs and Pleura	794	342	1,136	3·1	1·1
Phthisis and Hæmoptysis	365	334	699	1·9	·7
Influenza and Catarrh	1,754	7	1,761	4·8	1·8
Cynanche	450	-	450	1·2	·4
Asthma	59	-	59	·1	—
Disease of the Heart, Functional and Organic	476	92	568	1·5	·5
Hæmorrhoids	100	68	168	·4	·1
Varix	29	-	29	—	—
Aneurism	56	-	56	·1	—
Disease of the Stomach and Bowels	157	35	192	·5	·1
Dysentery	320	63	383	1·	—
Diarrhœa	1,307	43	1,350	3·6	1·3
Constipation and Colic	167	8	175	·4	·1
Disease of the Liver	315	15	330	·9	·3
Jaundice	67	-	67	·1	—

Table, No. 2.—Showing the Number of Days' Sickness from each Disease, &c.—*cont^d.*

DISEASE OR INJURY.	Number of Day's Sickness on Board.	Number of Day's Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	119	-	119	·3	·1
Syphilis	4,557	1,016	5,573	15·2	5·7
Gonorrhœa	828	24	852	2·3	·8
Orchitis	948	225	1,173	3·2	1·2
Stricture	199	-	199	·5	·1
Incontinence of Urine, &c.	25	68	93	·2	—
Rheumatism	4,306	785	5,091	13·9	5·2
Gout	72	21	93	·2	—
Disease of the Bones and Joints	346	134	480	1·3	·4
Inflammation of the Eyes	348	66	414	1·1	·4
Amaurosis and Cataract	71	-	71	·1	—
Otitis and Deafness	53	-	53	·1	—
Erysipelas	95	-	95	·2	—
Scrofula	303	-	303	·8	·3
Bubo (*Symp.*)	903	63	966	2·6	·9
Phlegmon and Abscess	5,887	25	5,912	16·1	6·1
Ulcer	5,163	235	5,398	14·7	5·5
Psora	79	16	95	·2	—
Eruptions, &c.	347	43	390	1·	·3
Dyspepsia and Debility	984	32	1,016	2·7	1·
Dropsy	102	-	102	·2	—
Worms	42	-	42	·1	—
Headache	41	-	41	·1	—
Wounds and Injuries	7,041	439	7,480	20·4	7·7
Burns and Scalds	364	-	364	·9	·3
Hernia	345	-	345	·9	·3
Submersion	23	-	23	—	—
TOTAL	42,633	5,269	47,902	131·2	49·8

TABLE, No. 3.

SHOWING the Number INVALIDED from each Ship employed on the PACIFIC STATION.

CAUSE of INVALIDING.	Alert.	Cameleon.	Charybdis.	Clio.	Columbine.	Devastation.	Leander.	Mutine.	Nereus.	Scout.	Shearwater.	Sparrowhawk.	Sutlej.	Tribune.	TOTAL.
Continued and Remittent Fever	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Intermittent Fever	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1
Epilepsy	2	–	–	–	–	–	1	–	–	–	1	–	3	–	7
Paralysis	–	*a* 1	–	–	–	–	–	–	–	–	–	–	–	–	1
Inflammation of the Lungs and Pleura	–	1	–	–	–	–	–	–	–	–	1	–	1	–	3
Phthisis and Hæmoptysis	3	–	–	1	–	–	–	1	–	–	2	1	3	1	12
Asthma	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1
Disease of the Heart, Functional and Organic	2	–	–	1	–	–	–	–	–	–	–	–	2	–	5
Varix	–	–	–	–	1	–	2	–	–	1	–	–	–	–	4
Dysentery	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1
Disease of the Liver	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1
Inflammation of the Kidneys and Bladder	–	–	–	–	–	–	*b* 1	–	–	–	–	–	–	–	1
Syphilis	–	–	–	–	–	2	–	–	–	–	1	–	–	–	3
Orchitis	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1
Stricture	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1
Rheumatism	–	1	–	1	2	2	–	–	1	1	–	–	4	–	12
Diseases of the Bones and Joints	–	–	–	1	–	–	1	–	–	–	–	–	–	–	2
Inflammation of the Eyes	–	–	–	–	–	–	–	–	–	–	1	–	–	–	1
Abscess	–	–	*c* 1	–	–	–	–	–	–	–	–	–	2	–	3
Ulcer	1	–	–	1	–	–	–	–	–	–	–	–	1	–	3
Dyspepsia and Debility	–	–	–	–	–	–	1	–	–	–	–	–	–	1	2
Dropsy	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1
Worms	–	–	–	–	–	1	–	–	–	–	–	–	4	–	5
Wounds	1	–	–	1	1	–	–	–	–	1	–	–	–	–	4
Hernia	–	–	–	3	1	–	2	–	–	–	–	–	1	–	7
TOTAL	11	3	1	11	5	7	8	1	1	3	6	1	23	2	83

a Paralysis Agitans. *b* Morbus Addisonii. *c* Fistulo in Ano.

TABLE, No. 4.

SHOWING the Number of DEATHS in each Ship employed on the PACIFIC STATION.

CAUSE OF DEATH.	Cameleon.	Clio.	Columbine.	Devastation.	Leander.	Marines, San Juan.	Scout.	Shearwater.	Sutlej.	Tribune.	TOTAL.
Continued and Remittent Fever	–	–	–	–	1	–	–	–	–	–	1
Inflammation of the Brain	–	–	1 *a*	–	–	–	–	–	–	–	1
Delirium Tremens	–	–	–	–	1	–	–	–	–	–	1
Inflammation of the Lungs and Pleura	–	–	–	–	–	–	2	–	–	–	2
Disease of the Heart	–	1	–	–	–	–	–	–	–	1	2
Aneurism	–	–	–	–	–	1	–	–	–	–	1
Disease of the Liver	–	–	1	–	–	–	–	–	–	–	1
Nephritis	–	–	–	–	1 *b*	–	–	–	–	–	1
Wounds and Injuries	–	–	–	–	1	–	–	–	1	–	2
Drowned	1	–	–	1	1	–	–	2	1	1	7
TOTAL	1	1	2	1	5	1	2	2	2	2	19

a Ramollissement Cerebri. *b* Morbus Addisonii.

TABLE, No. 5.

SHOWING the Names of the Ships; the Average Complements, &c.; the Number of Cases; the Total Number of Days' Sickness on Board; the Average Number of Men Sick Daily in each Ship; with the Number discharged to Hospital.

C., Commissioned. P. O., Paid off.

Rate, &c.	NAMES of SHIPS.	Where Commissioned.	When Commissioned.	Number of Guns.	Tonnage.	Horse Power.	Period.	Average Complements.	Average Complements corrected for Time.	Number of Cases of Disease and Injury.	Number of Days' Sickness on Board.	Average Number of Men Sick Daily during the Year.	Ratio per 1,000 of Average Force of each Ship.	Number discharged to Hospital.
Fourth Rate -	Leander - -	Sheerness -	14 April 1863	29	2,760	S. 400	Year - -	505	505	650	6,355	17·4	34·4	12
	Sutlej - - -	Portsmouth	20 Sept. 1862	35	3,066	S. 500	Year - -	540	540	652	8,001	21·9	40·5	10
Fifth Rate -	Tribune - -	Portsmouth	18 Mar. 1862	23	1,570	S. 300	Year - -	280	280	302	2,476	6·7	23·9	7
Sixth Rate -	Charybdis - P. O.	Sheerness -	2 Nov. 1860	21	1,506	S. 400	1 Jan. to 31 Mar.	225	55	117	1,711	4·6	83·6	-
	Clio - - -	Sheerness -	6 July 1864	22	1,472	S. 400	Year - -	290	290	556	6,307	17·2	59·3	13
	Scout - - -	Sheerness -	17 May 1865	21	1,462	S. 400	1 Oct. to 31 Dec.	280	70	230	2,279	6·2	88·5	6
Sloop - -	Alert - - -	Devonport -	14 May 1863	17	751	S. 100	Year - -	170	170	246	2,795	7·6	44·7	3
	Cameleon - -	Sheerness -	9 July 1861	17	952	S. 200	Year - -	145	145	247	2,066	5·6	38·6	6
	Columbine - -	Sheerness -	13 May 1863	4	672	S. 150	Year - -	125	125	139	1,419	3·8	30·4	5
	Devastation - -	Woolwich -	12 Dec. 1861	6	1,058	P. 400	Year - -	150	150	401	4,150	11·3	75·3	3
	Mutine - C.	Woolwich -	7 April 1865	17	882	S. 200	1 Oct. to 31 Dec.	190	50	98	1,007	2·7	54·	2
	Shearwater - -	Devonport -	13 Dec. 1862	4	669	S. 150	Year - -	115	115	177	1,558	4·2	36·5	19
Gun Vessel -	Sparrowhawk - C.	Portsmouth	9 Mar. 1865	4	676	S. 200	1 July to 31 Dec.	85	45	97	1,357	3·7	82·2	2
Store Ship -	Naiad - - P. O.	Portsmouth	29 Oct. 1846	6	1,020	-	1 Jan. to 26 Apr.	25	10	3	11	-	-	-
	Nereus - - -	Devonport -	15 Nov. 1843	6	1,094	-	Year - -	35	35	50	966	2·6	74·2	4
Gunboat - -	Forward* - -	Vancouver I.	19 July 1864	1	233	S. 60	—	-	-	-	-	-	-	-
	Grappler* - -	Vancouver I.	- - -	1	233	S. 60	—	-	-	-	-	-	-	-
Marine Detachment, San Juan -		- - -	- - -	-	-	-	Year - -	45	45	20	381	1·	22·2	-

* No Medical Officer borne.

TABLE, No. 6.

SHOWING the Number of Cases of all DISEASES and INJURIES in each Ship employed on the PACIFIC STATION.

DISEASE OR INJURY.	Alert.	Cameleon.	Charybdis.	Clio.	Columbine.	Devastation.	Leander.	Marines, San Juan.	Mutine.	Naiad.	Nereus.	Scout.	Shearwater.	Sparrowhawk.	Sutlej.	Tribune.	TOTAL.
Continued and Remittent Fever	44	17	1	47	12	5	10	-	3	-	4	17	10	-	7	33	210
Intermittent Fever	15	9	-	-	-	3	1	-	-	-	-	1	-	-	-	1	30
Small Pox	-	-	-	-	2	-	1	-	1	-	1	-	2	-	-	-	7
Scarlatina	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Vertigo	-	a 21	-	-	-	-	2	-	-	-	-	1	-	-	-	-	24
Disease of the Brain	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	1	3
Apoplexy	b 1	-	-	-	b 1	-	-	-	-	-	-	-	-	-	-	-	2
Epilepsy	b	-	1	1	-	-	3	-	-	-	1	-	2	-	11	-	24
Paralysis	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Delirium Tremens	-	-	-	2	-	-	4	-	-	-	2	-	-	-	4	-	12
Neuralgia	-	-	-	-	-	4	1	-	-	-	-	1	-	-	2	2	10
Inflammation of the Lungs and Pleura	2	3	-	2	-	4	2	-	-	-	-	8	9	-	13	3	46
Phthisis and Hæmoptysis	2	1	-	-	-	1	1	-	1	-	1	-	3	-	3	1	14
Cynanche	3	6	1	11	5	1	20	-	3	-	-	8	3	3	13	1	78
Influenza and Catarrh	3	18	15	31	3	50	70	2	6	2	6	23	16	9	48	36	338
Asthma	-	-	-	-	-	-	2	-	-	-	-	-	-	-	4	-	6
Functional and Organic Disease of the Heart	3	-	-	6	1	-	-	-	-	-	-	1	1	1	12	1	26
Aneurism	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	2
Hæmorrhoids	-	2	-	2	1	-	1	-	-	-	-	-	-	1	2	-	9
Varix	-	-	-	-	2	-	2	-	-	-	-	1	-	-	-	-	6
Inflammation of the Stomach and Bowels	-	-	-	2	-	1	-	-	-	-	-	-	-	-	2	-	5
Dysentery	3	3	1	-	-	-	1	-	-	-	-	1	2	2	-	1	14
Diarrhœa	32	56	4	22	5	22	50	-	8	-	-	24	2	5	27	10	276
Constipation and Colic	1	4	9	-	-	8	4	-	1	-	-	1	2	-	10	7	47
Inflammation of the Liver	-	2	-	2	1	-	-	-	-	-	-	7	-	-	-	-	12
Jaundice	3	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	5
Inflammation of the Bladder and Kidneys	-	-	-	3	2	-	c 1	-	-	-	-	-	-	-	1	-	7
Syphilis, Primary and Secondary	20	3	4	23	12	20	21	-	2	-	6	3	8	10	26	3	161
Gonorrhœa	2	-	6	9	3	6	2	2	2	-	3	-	-	-	8	-	33
Orchitis	4	1	4	9	1	4	6	-	1	-	-	4	3	-	18	2	53
Stricture of the Urethra	1	1	2	1	-	-	-	-	-	-	1	-	1	-	4	-	11
Rheumatism	3	15	11	54	11	63	21	4	2	-	5	15	9	12	48	15	288
Gout	1	-	-	4	2	-	-	-	-	-	1	-	-	-	-	-	8
Disease of the Bones and Joints	2	-	-	2	-	4	4	-	-	-	-	-	1	-	1	3	17
Inflammation of the Eyes	3	5	1	3	-	1	2	-	1	-	1	1	1	5	3	-	27
Amaurosis and Cataract	1	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	3
Otitis and Deafness	2	-	-	1	-	-	1	-	-	-	-	-	1	-	5	-	9
Erysipelas	-	-	-	3	1	-	1	-	-	-	-	-	-	-	2	-	7
Scrofula	-	-	1	1	1	-	-	-	-	-	-	-	-	-	5	-	8
Bubo (*Symp.*)	-	1	4	6	2	10	1	-	1	-	-	3	1	1	7	-	37
Phlegmon and Abscess	34	36	18	130	17	54	154	3	36	-	6	48	59	27	92	61	576
Ulcer	17	5	10	52	8	16	65	3	1	-	-	13	1	1	75	15	277
Psora	-	-	1	2	-	-	2	-	-	-	-	2	2	1	8	-	16
Eruptions, &c.	7	-	2	9	1	4	-	-	1	-	-	1	4	1	7	-	36
Dyspepsia and Debility	5	7	5	4	5	43	37	1	5	-	4	5	1	2	36	31	181
Headache, &c.	2	2	2	2	-	-	-	-	1	-	-	-	-	-	-	-	9
Dropsy	-	1	-	3	-	2	-	-	-	-	-	-	-	-	-	-	6
Worms	2	-	-	5	-	d 1	-	-	-	-	-	d 1	-	-	-	-	9
Wounds and Injuries	22	28	12	93	37	69	137	3	20	1	8	39	33	16	147	48	708
Burns and Scalds	1	3	2	3	1	4	16	-	2	-	-	1	-	-	5	2	40
Hernia	-	-	-	3	1	1	2	-	-	-	-	-	-	-	1	2	10
Submersion	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL	246	247	117	556	139	401	650	20	98	3	50	230	177	97	652	302	3,985

a Exhaustion from Heat. b Insolation. c Morbus Addisonii. d Tænia.

WEST COAST OF AFRICA.

West Coast of Africa Station.

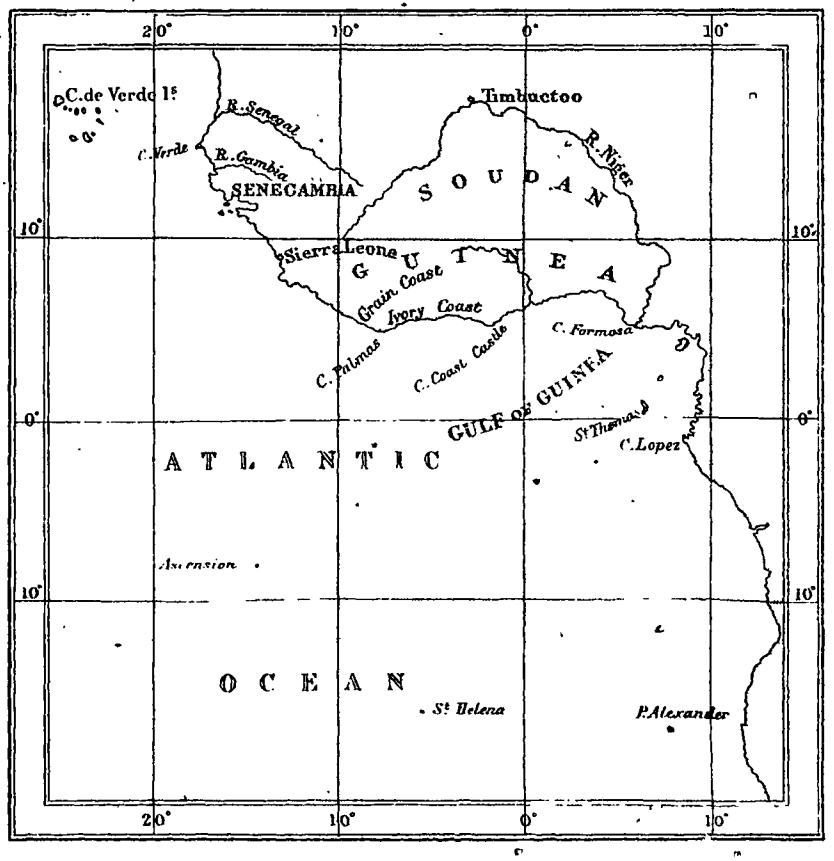
THE squadron on the West Coast of Africa in 1865, consisted of twenty-four vessels, viz., two of the sixth rate; one sloop; thirteen gun-vessels; three steam-vessels; one gunboat; two store ships; and two receiving ships, one permanently stationed at Sierra Leone, the other at Jellah Coffee. The returns from fifteen of the vessels were for the whole year, and from the remainder for periods varying from six to eleven months. The mean force corrected for time was 1,700, and the total number of cases of disease and injury placed under treatment, 3,721, being in the ratio of 2,188·8 per 1,000 of mean force, which is an increase equal to 185·1 per 1,000, when compared with the previous year. Of the sea-going vessels that were employed on the station during the whole year those which showed the highest sick-rates were the Dart, the Archer, and the Investigator; while the lowest sick-rates were in the Sparrow, the Rattlesnake, and the Espoir.

The daily loss of service from fevers, including the exanthemata, was equal to about thirty men, or in the ratio of 17·6 per 1,000 of mean force, which is a very great increase as compared with the preceding year; from diseases of the brain and nervous system, the daily sick-rate was ·9 per 1,000; from diseases of the organs of respiration, 3·7; of the heart and blood vessels, 1·5; of the alimentary canal, 2·9; of the liver, ·4; of the genito-urinary organs, 7·; from rheumatism, 4·4; from diseases of the bones and joints, ·3; of the special senses, ·2; of the skin and cellular tissue, 17·; from diseases not classed, 3·6; and from wounds and injuries of various kinds, 9·3; the total number of men daily sick was about 124, or in the ratio of 73·2 per 1,000 of mean force, which is an increase as compared with the sick-rate in 1864.

Fevers.—There were 822 cases of fever of a continued and remittent type under treatment during the year; sixty-five of

WEST COAST OF AFRICA STATION.

(To face p 180.)



of yellow fever; 138 of ague, and six of small-pox; and of these twenty-nine cases of primary fever, two of ague, and one of scarlatina, which remained from the preceding year, were invalided; and seven of primary fever, thirty-four of yellow fever, and two of small-pox had a fatal termination.

Continued and Remittent Fevers.—There were twenty cases of primary fever in the Antelope. Seventeen of these are classed as febricula, and three were of the continued type. The milder cases were each, on an average, five days under treatment; the others averaged fifteen days. There was nothing of any importance in connection with these cases.

In the Archer there were seventy cases of primary fever, of which forty-eight are classed as remittent, and twenty-two as febricula. More than one-half of these cases occurred during the Christmas quarter of the year, when the ship was visited by a severe epidemic of yellow fever; and as there are good grounds for supposing that they were mere modifications of the more fatal disease, any remarks it may be necessary to make upon them will be better reserved until the history of that epidemic is referred to. Of the cases of primary fever that occurred during the first three-quarters of the year, but little is to be said. Those of the remittent type were, for the most part, referable to exposure to malarial influences in river service, and were, in many instances, exceedingly tedious. The average duration of each case was about nineteen days.

There were seventy-eight cases of primary fever in the Dart, of which thirty-three are classed as remittent, and forty-five as febricula; the majority of the cases occurred during the Midsummer and Michaelmas quarters, and were, for the most part, attributable to malarial influences. With reference to some cases, that followed upon exposure on boat service in the River Congo, in the month of January, the medical officer* says, the men were—

"absent from the ship from the 11th to the 18th inclusive, of January, during which time four grains of quinine were taken by each European every evening, and for seven evenings after their return on board. The cases occurred, as follows, viz.: one on the evening of the 2nd of February; one on the evening of the 3rd; one,

* Assistant Surgeon D. Bowen Thomas.

West Coast of Africa Station.

one, at noon, of the 4th; and one, at noon, of the 5th; this giving respectively as their shortest incubative periods, the 15th, 16th, 17th and 18th days.

"It should be observed that all these men, as well as two that escaped, and the Gunner, were exposed for about an hour to heavy rain during a tornado on the afternoon of the 2nd, the day when the first case appeared. Are we then to regard cold and wet, by checking skin action, and producing depression, &c., the immediate exciting causes which called the disorders into activity, and to believe that the malarious poison which had lain latent in their systems for fourteen days would have been slowly but surely eliminated by the various emunctories, without causing any sensible or evil effects, if the cold and wet had not checked their normal functions? Seeing that the average period of incubation, a fortnight, had been passed without any constitutional disturbance whatever, and that all the cases were mild, owing possibly to the greater portion of the miasmatic poison having been already excreted from the system, it does not appear unreasonable to think so, and therefore to regard the skin and kidneys, as the chief, if not the sole eliminators of this subtle poison; if this be so, it is at once apparent why particular attention should be paid to maintain the functions of these two systems in good working order, by the regular use of the cold bath in the morning, wearing flannel next to the skin, and taking plenty of walking exercise in the early mornings and evenings. Some say that it is injurious and dangerous to excite the system by bodily exercise on this station, but I do not agree with this opinion, and from repeated observation of the habits of various residents on shore, can almost bring positive evidence to the contrary. I should here state that, for some time past, I have discontinued giving quinine as a prophylactic twice a day, for when thus taken in the morning it is very liable to induce severe throbbing headache and vertigo, which incapacitate the men for performing their duties after the heat of the day has attained even a moderate intensity.

"In all these cases the symptoms were mild, and much the same, the primary or depressed and disturbed state of the nervous system being very slight, although unequivocally indicated by the peculiar, intense, and constrictive frontal headache, the pale and somewhat anxious countenance, with much heaviness of the eyes, and a disinclination or difficulty in keeping the lids apart; slight confusion of the intellect, and general aching pains, with a feeling of great bodily prostration. The skin was cool, there were no rigors, and the pulse was but very slightly accelerated and oppressed; the tongue was moist, and covered with a thin, yellowish white fur; the bowels were costive, and the urine scanty, very high coloured, and acid.

"The cold stage lasted for about an hour and-a-half, when it was followed by a moderate hot stage, with little or no perspiration succeeding; but the pyrexia continued more or less present until the subsidence of the disorder, subject, however, to slight yet distinct evening exacerbations, and morning remissions.

"The ordinary treatment was pursued, which consists in first thoroughly clearing the bowels by calomel and jalap, followed, if necessary,

necessary, by a black draught; and then the administering the specific, quinine, in doses of from six to twelve grains, continued with diuretic and diaphoretic salines every four hours, to cinchonism, which was here induced in from forty-eight to seventy-two hours, when usually all pyrexia soon disappeared in all the cases, excepting the last, in which the fever continued for three days longer, quite uninfluenced by the alkaloid. The subsequent debility was very trifling, excepting in two cases still on the sick-list, notwithstanding the liberal use of dietetic and medicinal tonics. One of these was a delicate strumous lad, very imperfectly nourished when he joined the service; and the other had a very severe attack of remittent fever on the North Coast two years ago, which may account for the tedious convalescence in both, and for the failure of the quinine in the latter. Three cases were discharged respectively on the 6th, 5th, and 7th days, a very favourable and unusual result, but perhaps to be attributed, as already conjectured, to the small amount of the toxic agent present in the system when the disorder was called into activity."

The average duration of each case of remittent fever in this ship was about fifteen days, and of each case of febricula between five and six days.

A case of malignant remittent fever proved very rapidly fatal in the person of an officer of this vessel, who had been subject to repeated aguish attacks, following exposure in boat service on the North Coast six months previously, which had induced both splenic and hepatic enlargement. On the last occasion on which he was placed on the sick-list, he was seized with symptoms of ordinary ague immediately on awaking from an hour's meridian sleep, during which there had been a few degrees reduction of the temperature consequent on a heavy tornado, followed by much rain. The report of the case by the medical officer is as follows:—

"..... was placed on the sick-list on the afternoon of the 16th of November for simple ague. ..... the present illness commenced thirty hours after leaving Sierra Leone, where, of late, an almost universally fatal form of bilious remittent fever had been prevalent at intervals, and where we remained from 5.10 p. m. of the 12th, until 5.20 a. m. of the 15th. The place, however, being reported healthy on our arrival, no fatal cases having occurred for a month previously, leave was granted to the In[illegible]ly, up to 9 p. m., in accordance with the station orders, [illegible]ceased was on shore, for the only time on the evening of fever. .. The case presented no unusual features until 1.50 p. m. as 17th, when, upon sitting up in bed to take his medicine, he vomited about a pint of dark coffee-ground like matters; he was now also found to be irrational; the skin and head were burning hot and dry, but there was no perceptible throbbing of the temporal arteries. The pulse was 112, weak; thirst, urgent; the tongue covered

West Coast of Africa Station.

covered with a yellowish white fur, and moist, but water had just been taken; the excretions, excepting the cutaneous, were free, the bowels having acted twice freely since the administration of an aperient pill on the previous afternoon. He was now placed in a cot under an awning, upon the upper deck, the head shaved, and cold water assiduously applied to it by means of a thin cotton cloth, which was productive of much relief, as, even when delirious, he would motion or request to have it changed, should it happen to have been allowed to become dry. At three p.m. the vomiting returned, and it was now of a black colour; the tongue too had now become brown and dry, excepting at the tip and edges, which continued clean. There was one vomiting between 6 and 8 p.m.; two, from 8 to 12; and four or five from 12 to 4 a.m., but much less in quantity; and twice there was no black matter, which gave some hope of a favourable change having occurred, especially as the patient had now become perfectly rational, with a remission of the febrile symptoms; the improvement was, however, very evanescent, for at 5 a.m. copious, black, almost tarry vomiting ensued after taking a few spoonsful of arrow-root and brandy, and now also the stools became sanguineous. The bowels had acted four times in the night, the stools being thin and watery, with a fæcal odour; the bladder was emptied at the same time, but the nature of the urine could not be ascertained, as it was passed in the closet-pan; after this, the sanguineous vomiting and stools continued to occur at variable, though never long intervals, and in varying quantities; and considering the large quantity of blood which had been already lost, and that nothing could be retained in the stomach or rectum, the case had now become quite hopeless, for although consciousness remained up to 5 p.m., when it finally disappeared with the setting in of an exacerbation of febrile symptoms, the strength gradually became weaker and weaker up to 9.50 p.m., when he sank from asthenia."

The fatal form of fever which is referred to in this case as having been prevalent at Sierra Leone during the Michaelmas and Christmas quarter of the year was undoubtedly specific yellow fever, as will be seen hereafter; and the case in the Dart presents many of the features of that deadly disease. Fortunately she was on her passage to England when it occurred, and was every day running into cooler latitudes; and it is possible that this circumstance, with the fact of the patient being kept under an awning on the upper deck, may have tended to prevent an extension of the disease. Another case of a very similar nature occurred fo[redacted] hours after the vessel left Sierra Leone, but it for[redacted] terminated favourably. The man had not been on[redacted] but the features of the cases were intense bilious, almost grumous vomiting, which remained uncontrolled by treatment for the first twelve hours. He made a somewhat tedious recovery, being twenty-five days on the sick-list.

There

There were twenty-eight cases of primary fever in the Espoir, of which seventeen are classed as remittent, and eleven as febricula. The average duration of each case of the former was about nine days; of the latter, seven days; so that there appears in this respect to have been little difference between them. The twenty-eight cases occurred in twenty-two men, eighteen of whom were attacked once; two, twice; and two, thrice. All the cases occurred in white men, and all were discharged to duty.

There were thirty-one cases of primary fever in the Griffon, the only noteworthy feature connected with them being their protracted character. The average duration of each case in the sick-list was about twenty-four days. This may, in some degree be accounted for by the generally enfeebled condition of the ship's company, the vessel having been upwards of four years in commission, during almost all of which time she was employed on this station.

In the Investigator, which was during almost the whole year stationed on the Lagos lagoon, and was also employed in an expedition up the River Niger, there were seventy-six cases of primary fever, one of which proved fatal. These cases were of a very tedious nature, the average duration of each being upwards of forty days. Little or no information, however, is given respecting them, but they were doubtless of the ordinary character peculiar to the coast, and rendered tedious by the cachectic condition of the men.

There were thirty-eight cases of primary fever in the Isis receiving-ship, permanently stationed at Sierra Leone. Twenty-six occurred during the Michaelmas quarter of the year, and nine during the Christmas quarter, at which time specific yellow fever had been prevalent on shore, and caused great mortality amongst the European inhabitants. There can be little doubt that many of the cases in the Isis were modified forms of yellow fever, and it will therefore be better to defer any observations on them until the yellow fever cases that occurred in this vessel come to be noticed.

In the Jaseur there were seventy-three cases of primary fever, seventy-one of which are classed as remittent, and two as febricula. The majority of these cases occurred in the form of an epidemic in the Midsummer quarter of the year, when the disease appeared shortly after coaling at Banana.

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The medical officer* makes the following observations on these cases in the return for the quarter in which they occurred.

"The health of the ship's company has been far from good during the quarter. Thirty-nine cases of fever were put on the sick-list, giving a total of 547 days' sickness. The disease assumed an epidemic form; the number on the sick-list on the 21st of May being only two, while ten days afterwards there were twenty-five, all of whom were labouring under remittent fever. At that time the ship was at anchor off Manque Grande, about seven miles from the shore; the weather was fine and without rain, though very heavy dews prevailed at night. I could not attribute the outbreak of the disease to any cause on board the vessel, though I am afraid the morbific influence was contracted while coaling ship on the 14th of May, in the Creek at the Dutch Factory of Banana, where the Europeans employed are constantly suffering from fever, and where the malaria is abundant. I regret to say I gave my concurrence to allow the men to bathe and wash themselves after finishing coaling. The ship was lying alongside a wooden jetty; it was about 4 p.m., and there was almost no sun at the time the men bathed. I fear much that this may have had some tendency to generate the disease. I may here state that quinine was not administered as a prophylactic, there being very little remaining on board, and not being able to procure more. The Jaseur left the Creek the same evening, and proceeded to Manque Grande, and there the disease showed itself, after a period of incubation of from ten to fifteen days. The prevailing symptoms of the fever were severe headache, with pains in the loins and extremities, hot skin, urgent thirst, tongue coated and furred, and the pulse ranging from 90 to 130. These symptoms rapidly subsided under the treatment employed, viz.: an active purgative followed by a saline mixture, and the application of cold lotion to the shaven head, with lemonade for drink. In some cases there was sickness and vomiting, which was allayed by effervescing draughts. In a few days the feverish symptoms subsided; the pulse being reduced to 60 or 70, when quinine, with a nourishing diet with port wine, were prescribed. In some cases the patients became excessively prostrated, the convalescence was tedious, and frequent relapses are now taking place."

There was only one case of primary fever in the Landrail. It occurred in the person of a marine, and is said to have been caused by his having slept all night in a wet great coat. He was fifty days under treatment, chronic rheumatism having occurred as a sequela of the fever, and protracted the convalescence. The almost entire exemption enjoyed by the crew of this ship from the fevers of the station may be considered to be mainly attributable to their not having been employed

* Dr. T. D. Allison.

employed on river service, and to the small communication they had with the shore. Great attention, however, appears to have been paid to the welfare of the ship's company; and, employed as the vessel was during nearly the whole year in the monotonous duty of blockading, so to speak, the Bights of Benin, the measures adopted to preserve the health of the men, and to relieve the tedium of the duty, appear to have been very judicious, and were attended with the best results. During the fine season, which may be said to extend from the end of October to the beginning of March, each of the vessels employed on this part of the station had a boat cruizing, usually to windward of the ship. "In this ship," the medical officer* says:—

"The cutter is the boat, and three different crews, each consisting of an officer, six white men and two kroomen, are told off for this duty, which they perform in turn. Our cutter has never been absent more than seven days. Every possible means is adopted to secure, in as great a degree as possible, the comfort of these crews. Each man takes a change of clothing, besides a blanket suit for night. An extra issue of coffee is supplied for each day, to be used in addition to the ordinary allowance of cocoa; lime-juice for daily use; water, enough to supply two gallons daily to each man. Quinine in diluted rum is given in charge of the officer, to be issued daily. Boat's coppers are always sent, so that the food may be properly cooked. On most of the cruizing-ground fowls, yams and fruit are brought off to to the boat by native canoes. The boat's awning is kept spread, and the men are not allowed to pull, except in case of absolute necessity. She comes to an anchor every night. The strictest orders are issued against landing. This service is particularly popular among the men, as it is a great contrast to the tedium and monotony of the life on board, and in no case as yet has any illness resulted from it."

With regard to the routine on board the ship, he says:—

". . . . No work is done outside the awnings excepting in case of necessity, between 8.30 a. m. and 5 p. m. The lower deck is wiped over daily and holystoned on Saturday. As, however, the galley is on that deck, all moisture is speedily dried up. There are four copper ventilators with large cowls, and two wind sails communicating with this deck, and the heated air from the galley keeps up a continued current of fresh air.

"Many of the men sleep on deck in the dry season under the sloped awning. Most have small duck hammocks or else mats, all the service hammocks having been returned to Ascension. Blanket-clothing is worn at night and aired daily. Until the "pipe down," and

* Assistant Surgeon T. A. O'Flaherty.

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and after work is over, singing, music, dancing, and "skylarking" are encouraged, and freely indulged in by most of the men, all of whom up to the present time have retained high animal spirits, and appear perfectly contented.

"All the water is distilled on board, and an allowance of one gallon is issued daily for cooking and drinking, with the same quantity, twice a week, for washing clothes.

"Fresh meat is generally procured about four times a month, two days' allowance each time, and lime-juice is daily served out. The men buy for themselves yams in large quantities, when, as at present, they are plentiful and cheap; also fruit, especially oranges.

"On occasions when the "watch," or "hands" have been wet in the rainy season, coffee is issued, hot, as soon as the clothing has been shifted."

He adds—

"I cannot think that we have yet had any cases of climatorial disease. Our immunity from such disease is, in my opinion, due to the combined influence of several causes, viz., 1st. We have not ascended any of the rivers; 2nd. None of the crew has ever landed on the coast; 3rd. The greatest care has always been taken to avoid exposure of the ship's company to the sun by day, and the dew at night; blanket-clothing is always worn at night; 4th. Water from the shore is never used, all being condensed on board, and an ample supply allowed. Again, the physique of the crew was originally, I think, above the average, and the cheerfulness and high spirits which, in spite of the monotonous nature of their duties they still keep up, have no doubt, considerable influence in lessening the predisposition to disease."

There were twenty-seven cases of primary fever in the Lee, one of which proved fatal. A number of these cases were referable to exposure to malarious influences in the River Volta, where nineteen seamen and eleven kroomen were landed to attack some hostile natives. They were three days on shore, and in coming off to the ship all the men were wet, the boat having been capsized on the surf, and they being for some time in the water. The expedition landed on the 23rd of May, and returned on the 26th. Eight of these men were attacked with fever, six of them on the 14th day of incubation, the other two, two days later. In all the head symptoms were the most prominent, there was high delirium at night, and vomiting was an urgent symptom. On the first sign of a remission quinine, in from four to six grain doses was administered every four hours until cinchonism was induced. The subsequent treatment was mainly dietetic.

There were no points of interest in connection with the fever cases in the Mæander and Mullet.

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There were seventy-four cases of primary fever in the Pandora. Four of these are classed as continued, sixty-eight as remittent, one as typhus, and one as febricula. The case of typhus does not properly belong to this ship, the disease having occurred in the person of a boy of the Archer, who was sent to the Pandora for a passage to the hospital at Ascension. He died after being on board nine days, but it is said that he had been ill for some time before. On two different occasions remittent fever assumed an epidemic form in this ship. The medical officer* says:—

"There have been, during the year, two slight outbreaks of fever, both entirely of the remittent form. The first of these was after some days' exposure in open boats in the various creeks up the River Congo.

"On Friday, the 26th of May, we proceeded up the River Congo, about twenty-five miles, where, whilst searching a creek, three men were wounded. We returned to the mouth of the river on the 28th, and in the afternoon again proceeded up the river to the same place, where we remained until the 2nd of June, and then were in Banana Creek for two days coaling. During this time as much care as possible was taken of the men who, in the service on which they were employed, were constantly pulling up these small creeks, the mangroves being in some places to be touched on either side, and sometimes meeting directly overhead. It was not possible, however, to keep the men from some exposure to the sun. Quinine was administered in the usual manner, but, from the supply failing, its prophylactic properties could not be well tested. From the 2nd of June to the 16th the ship's company remained healthy; on that day, however, two men were seized with remittent fever; on the 17th there were two more; on the 18th, three; on the 20th, one; on the 21st, one; on the 25th, one; on the 26th, two; on the 29th, two; and, on the 1st of July, one. There were not any more cases until the 9th of July, when there was one more; on the 10th, three; on the 11th, one; on the 14th, one; and the last, at that time, was on the 20th, when one man was put on the sick list. The whole of the cases were of a mild nature, the average number of days for each, including their convalescence being fourteen. So that I have no doubt, had there been a sufficient quantity of quinine to have regularly administered for fourteen days after the expedition to the whole ship's company we should have entirely escaped the attack, the cases not being confined to those away in the boats up the creeks, but including a number of those who remained on board the ship, which was anchored off the mouths of them.

The second slight outbreak occurred in the early part of November whilst lying at St. Paul de Loando. The first case occurred on the 2nd; three more on the 6th; four on the 7th; on the 8th, three; on the 10th, one; and, on the 14th, one, when it ceased. This

* Assistant Surgeon George Evan Farr.

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This outbreak was, I think, attributable to the ship's company being debilitated, and in want of change. The temperature was not only high, being 86° and 88°, but the sea breeze was very slight, making every one feel uncomfortable. Under these circumstances a very slight exposure to the sun affected the men, and that this was the cause of these cases appears by the fact that they ceased directly the ship went to sea, and those on the sick-list quickly recovered."

There were forty cases of primary fever in the Ranger, but no information of any value in connection with them is to be obtained from the returns from this vessel. Eighteen are classed as continued fever, each case being on an average between eight and nine days on the sick-list; sixteen as remittent, with an average duration to each of between thirteen and fourteen days; and six as febricula, the average duration of each case being between seven and eight days.

There were fifty-two cases of primary fever in the Rattlesnake. Of these, three of the remittent type, and twenty-seven classed as ephemeral, occurred in the Midsummer quarter of the year, and are referred to exposure incurred in beaching and repairing the Pioneer, tender to the Rattlesnake, at St. Paul de Loando. Some of the cases are said to have been of considerable severity, and one proved fatal in the person of a marine debilitated by long service on the station, and by excesses of various kinds. The case presented all the character of malignant remittent fever. This man was employed at work on the Pioneer. In the Christmas quarter of the year there were seventeen cases of primary fever, of which fifteen are said to have been remittent, and two ephemeral; but as these cases occurred when yellow fever was epidemic on board, and as they are said to have shown all the characteristics of the more fatal disease, reference will be made to them hereafter.

There were sixteen cases of primary fever in the Snipe, six of which are classed as remittent, and ten as febricula. The average duration of each of the latter cases was about four days, while the former averaged over three weeks, and some of them were very protracted. All the cases of remittent fever occurred in the Lady quarter of the year, and are attributed to long-continued exposure to malarious influences in the River Congo, where the vessel was stationed for nearly three months. One case terminated fatally.

In the Sparrow there were fourteen cases of primary fever, a large proportion of which were of an ephemeral character. In one or two cases, however, there was a very tedious convalescence;

valescence; but in other respects there was nothing of a noteworthy character in connection with them.

There were twenty-three cases of primary fever in the Speedwell, one of which proved fatal. The returns from this vessel are so imperfect, that but little information is to be obtained from them. Six of the cases of fever are classed as remittent, and seventeen as ephemeral. The average duration of each of the former was eleven days, and of the latter between three and four.

In the Torch there were thirty-two cases of primary fever, of which three were continued, seventeen remittent, and twelve ephemeral. One case of remittent fever occurring in an officer, proved fatal. Four or five days before the attack, he had fallen overboard, and for some time remained in his wet clothes; and it is thought that this exposure was the exciting cause of the febrile attack. With reference to two cases of remittent fever that occurred in the month of July, the following particulars are given by the medical officer* of the vessel:—

"A small party consisting of three officers, including myself, visited Whydah on the 21st of June. The town is situated about three miles from the beach, and built on the opposite side of an extensive lagoon, the water of which is foul and nearly stagnant, and emits when disturbed a most overpowering stench. Europeans usually cross in hammocks, which are borne on the heads of the natives. This is found to be the most convenient, as well as the pleasantest mode of conveyance. The hammock is attached to a long pole, over which an awning is spread. This can be trimmed at pleasure by the traveller, so as to form at all times protection from the rays of the sun. Previous to our entering the lagoon, every precaution was adopted against the ill effects of such emanations. Quinine was taken in three grain doses immediately on leaving the ship, also after crossing the lagoon, and again before going to bed at night. The same precaution was adopted on the following day, and all exposure to the heat of the sun was carefully avoided. At an early hour on the morning of the 23rd, we recrossed the lagoon, and returned to the ship. No ill effects followed until the 9th of July, the sixteenth day after returning, when I felt so ill as to be unable to continue at duty, and one of the other officers was also at the same time taken ill, feeling feverish, and having passed a restless night. In both cases there was shivering, heat of skin, accelerated pulse, and general febrile excitability, which was followed in a few hours by bilious vomiting and obstinate retching, which, though an effort to eliminate the poison from the system, proved a source of exhaustion and debility, if allowed to continue unchecked. That the

* Assistant Surgeon J. Donovan.

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the disease was contracted at the time of crossing the lagoon, I think there can be but little doubt, and that the poison was introduced in both cases at the same time is most probable.

"Although the inflammatory stage of the fever was more severe in the case of the other officer affected than in mine, the subsequent debility and prostration under which I laboured was more marked. There were undoubted exacerbations in the evening, with remissions in the morning. The stomach became more irritable towards night, which must, to a great extent, be attributed to the efforts to take food during the day. I found that quinine was rejected almost immediately it was taken, and that solid matters could not be retained for more than a few seconds. Warm drinks were not liked, and at times caused sickness. Acid effervescing draughts were most agreeable, and were generally retained. On the morning of the fourth day I felt a decided remission, and was sufficiently well to take a little exercise on deck, but did not recover the ill effects of the fever for several weeks after. The other officer continued under treatment until the 23rd of July. In his case there was more obstinate vomiting, and fever of a more inflammatory character.

"Quinine, although regularly taken during our absence from the ship, failed in this instance as a prophylactic agent, excepting perhaps, in the case of the officer who escaped, and who, although equally exposed with the others, never showed any symptoms of fever. It must be admitted, that had the use of quinine been persisted in for some days after our return to the ship, a different result might have been obtained. Should a similar instance again occur, I should certainly continue its use, though the individual be removed from the morbific influence of marsh miasm."

There were thirty-eight cases of primary fever in the Vindictive at Jella Coffee, concerning which there is little to be said: they were examples of the ordinary coast fever, varying in severity, few of them, however, being of an aggravated type. With regard to the use of quinine in this form of fever, one of the medical officers* observes:—

"In every case I have adhered strictly to the quinine treatment, administering it in doses of five grains at intervals, according to the severity of the attack, until slight cinchonism has occurred; I have never found it aggravate the cerebral symptoms or the vomiting. Certainly none of the cases have been of the severe and dangerous character mentioned in books as occurring on shore in tropical climates, with the cerebral effusion, abdominal inflammations, typhoid tongue, early prostration, with scarcely any signs of remission, &c., so that I am perhaps rather premature in offering an opinion as to the specific effect of quinine; but in the cases recorded in my journal, I am quite confident as to the beneficial effects of the drug. In some of the sudden attacks reported here, where there were hot skin;

* Assistant Surgeon Henry Brietzcke.

skin, quick bounding pulse, vomiting, general muscular debility, and other symptoms of a severe attack of fever, the prompt use of large doses of quinine undoubtedly cut short, or entirely repelled, the ensuing paroxysm, and the patient returned to his duty in three or four days. These must have been cases of fever produced by the reception of the malarious poison. There is no other disease, that I am aware of, which will produce these sudden formidable symptoms, followed by apyretic intervals. In two cases the paroxysms returned again and again, until the quinine was given, when they soon disappeared. Some might say that the vis medicatrix naturæ does more to cure the disease than the quinine, and that the paroxysms would have disappeared of themselves without the specific; but the changes are too great and immediate, and the instances of success too numerous, to admit of this explanation. The burning pungent feel of the skin is probably, in some degree, a sensation produced by its extreme dryness, for in two or three cases the thermometer in the axilla, during the height of the paroxysm, was 101° Fahrenheit, and during the remission 98° Fahrenheit, a difference of 3° only.

"I generally administered the quinine in five-grain doses, having previously cleared out the bowels well, so as to allow of the more easy absorption of the specific. In one case five grains were given every four hours, and forty taken before cinchonism was produced. The deafness lasted for two or three days, but was only temporary, as the patient has now perfect hearing. In another case cinchonism occurred after fifteen grains were taken, five every four hours; and in another twenty-five grains were taken, five every three hours, before the characteristic buzzing noises were recognised. I always stopped the quinine as soon as these symptoms occurred, and after waiting a few hours, or until the next morning, resumed the doses. The vomiting has frequently been a troublesome symptom, but I have generally found it yield to mustard poultices, or blisters to the epigastrium, and effervescing draughts. I think the latter ought to be given in small quantities, at short intervals, as any great bulk of the liquid poured into the stomach is very likely to increase the irritability. The disturbance of the liver is well exemplified by the yellow tinge of the skin and conjunctivæ, and dark-coloured urine; in one or two cases the serum flowing from a blister was distinctly yellow. There is evidently an increased secretion of bile, proved by its appearance in the vomited matters and intestinal evacuations, and its re-absorption into the blood may give rise to the yellow skin. Several of the same men have suffered repeated attacks of fever. I can only account for this by supposing that from their having been for some time on the coast, the poison lurking in their systems manifests itself by these outbreaks whenever any exciting cause, such as exposure, fatigue, or intemperance, occurs. In one case, that of a native servant, the paroxysms were not well marked. He complained of dyspnœa and cough, but as I could find no chest complication, and as there was some uneasiness in the right hypochondrium, I judged that the congestion of the liver limited the full expansion of the chest, and produced the above symptoms. He was treated with quinine, but the febrile symptoms seemed to linger much longer than in any other case, and the medicine did not ap-

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pear to have the usual anti-periodic power. I believe the natives on shore sometimes suffer from the effects of malaria, but as quinine is not known, and they resort to fetish gods, not a few lose their lives. In two cases, one of which was more allied to intermittent fever, I tried arsenic as an anti-periodic. In the case referred to I was disappointed, as the drug seemed rather to aggravate the vomiting, and the patient did not recover until quinine was substituted. In the other case I was more successful, and the exacerbations ceased after taking five drops of the Liquor potassæ arsenitis three times a day. I think it is more beneficial in the purely intermittent cases, and its cholagogue properties are then of use."

The few cases of primary fever that occurred in the Wye were of an ephemeral character.

There were seventy-three cases of primary fever in the Zebra. Of these, sixty occurred in the Michaelmas quarter of the year, and were almost altogether attributable to exposure to malarious influences in the Mellacoree River, where the ship lay at anchor off Fernando Po, from the 25th of June to the 8th of July. During this period three boats were detached on a expedition some fifteen or twenty miles further up the river, where they were occupied more or less for twenty-three days. Three officers and nineteen men, besides kroomen, were employed on this service. Five of these remained up the river during the whole period of the expedition; three remained twenty days; one, for thirteen; nine, for nine days; two, for eight; one, for three; and one for only two days. As some of these men came down others took their places. Of the relieving party, two remained up fourteen days; four, twelve; one, eight; and another seven. Two officers left the bar on the 16th of July, and returned on the 20th, being away four days. It thus appears, that thirty-two officers and men were more immediately exposed to malarious influences. The state of the river at this time is thus given by the surgeon* of the ship.

"The river at the bar is about five miles in width, but it soon narrows to nearly half that distance, and at a distance of about two miles from the entrance is little more than 2,000 yards wide. At Fernando Po it varies from three quarters to a mile. On either bank mangroves grow abundantly; vegetation is very prolific. There is a tidal rise and fall of about eleven feet, and at ebb tide both banks show nothing but mud. At various times there arises from these a miasm, which is now and then most distinctly perceptible, at one period assuming the form of thin vapoury clouds, at another a diffused

* Dr. M. W. Cowan.

diffused mist. On the morning of the 4th of July it was seen very plainly in the latter form, and when mentioning to the proprietor of the Fernando Po factory what I had noted on that morning, he corroborated my observation, remarking that on that and similar occasions, he invariably took ten grains of quinine as a prophylactic, administering doses in proper proportions to the members of his family. At such times he always abstained from drinking the river water, which he considered tainted. I ascertained from him that at times the miasm rose over and floated down the banks, but frequently it would make its way to the centre of the river, disappearing with the ebb tide; and if any vessel was anchored there, it was almost a certainty that some of the crew would be seized with fever after its departure. A little after sunset may occasionally be seen rising from and hanging over the mangrove bushes, particularly on the left or south bank, dense white clouds, small at first, but gradually increasing in size until they reach some twenty feet above the mangroves, when they become diffused. It is considered unsafe to go out in the evenings at Fernando Po from sunset until about two hours afterwards, by which time it is supposed that the greatest risks from exposure to the nightly soil evaporation have passed away. This information does not rest on my own testimony."

Of those engaged in the expedition up the river, only two escaped being placed on the sick-list with fever, and one of these suffered severely from great irritability of the stomach with febrile symptoms; but being an officer, and the head of a department, one of whose staff was already sick, he was anxious to remain at duty.

"The other exception was an officer who had no complaint whatever; and, so much for the prophylactic effects of quinine, he was the only one who persistently took it in four-grain doses twice daily during the whole period of his absence, and for fourteen days after his return to the ship; and this officer, though of delicate constitution, having in the spring of the year suffered from rheumatic fever in England, was probably more exposed than any other person, as on several occasions he was required to go up and down the river during the night, and when the rain was descending in torrents."

The average duration of each of these cases on the sick-list was between eight and nine days.

During the same period, nineteen cases of fever occurred amongst those of the ship's company who had not been detached on boat service. In almost all these cases there was exposure of one kind or another. In a number of boys who were taken ill, bathing in the river is supposed to have been the exciting cause; in two artificers, work outside the ship; in a sailmaker, repairing sails on the upper deck, un-

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protected; and in a blue jacket, pulling backwards and forwards between the ship and the factory; each of these cases averaged about six days on the sick-list.

Yellow Fever.—Sixty-five cases of this virulent form of fever appear in the returns from the squadron, of which thirty-four had a fatal termination.

In the Archer, there were fifty-six cases of yellow fever; they all occurred during the Christmas quarter of the year, during which period also twenty-eight cases of remittent fever, and thirteen of what are termed febricula, were placed under treatment, and were, in all probability, mere modifications of the more deadly disease. The history of this fatal epidemic is thus given by the surgeon* of the ship. Referring to the sick-rate of the vessel in the month of October, he says:—

"This very high rate of sickness was the result of an outbreak of yellow fever, which was introduced on board the Archer by a leading seaman, John Lynch, belonging to Her Majesty's ship Ranger, who had been waiting at St. Paul de Loando, for the adjudication of a vessel that was seized by his ship in the River Congo, about the 9th of September, on suspicion of being engaged in the slave trade. This vessel had previously come from the island of St. Thomas, and her former voyage had been to Rio Janeiro. When the Archer left Loando, for a trip to the southward, on the 26th of September, Lynch and another man belonging to the Ranger were victualled with a party of engineers and stokers of the Archer, who were living on shore on Loando Island, repairing a part of our engines. After calling at Quicombo and Benquelha Vella, the Archer returned to Loando on the evening of the 5th of October, when I myself was attacked with remittent fever, and on the following day, no assistant surgeon being then in the Archer, the assistant surgeon of the Pioneer was taken on board to do duty, and brought with him Lynch, and one of our own stokers, who had been sent to the Pioneer three days previously, ill with fever, which they contracted at Loando Island. Lynch was then in a low typhoid state, attended by slight stupor and great nervous depression, also much irritability of the stomach. He steadily progressed from bad to worse, and died in the steerage of the Archer, near the gun-room, on the afternoon of the 8th of October, with coma and black vomit. We did not leave Loando until the 10th of October, when a second one of the stokers was brought on board from the party at Loando Island, ill with fever; however, both he and the man who came off with Lynch made good recoveries, although they had much irritability of stomach, &c. The Archer now sailed for the mouth

* Dr. Wm. D. Smyth.

mouth of the River Congo, and arrived there on the 13th, when a master's assistant was discharged to the Pioneer, which had preceded us there. After communicating with the Speedwell, we left the Congo on the 14th, and returned to Loando on the 18th of October. In the meantime an assistant engineer and a seaman were attacked with fever on the 11th, but both were mild cases. On the 12th, however, a seaman and a boy were seized with fever, which afterwards proved to be of the specific yellow type; still they did well, and recovered after being about fifteen days each on the sick-list. On the 14th, the gun-room steward was attacked, and on the 15th two of the midshipmen, but although there was smart pyrexial action, accompanied by irritability of stomach, they made quick recoveries, and were discharged to duty after having been eleven and a half days each under treatment.

On the 18th, the clerk, who had been convalescent from an attack of remittent fever attended by ophthalmia, was seized with violent pyrexial symptoms, which soon assumed a virulent form, running a rapid course, and ending with delirium, convulsions, black vomit, and death on the 26th.

"On the 23rd the Pioneer arrived at Loando, with the intelligence of the master's assistant, who had been transferred to her, having died with black vomit, &c., on the 18th. He was taken ill on the 14th (the day after he left the Archer at the Congo), so that he must have contracted the disease from the man Lynch. On the 24th, the remainder of the working party on Loando Island, having completed the repairs of the engines, embarked, and it was now deemed advisable for the ship to go at once to Ascension. Accordingly, on the 25th we took our departure from Loando, and after communicating with the Pandora, off the Congo, proceeded to Ascension, where we arrived on the 4th of November. Before leaving the coast (between the 18th and the 24th), two cases of yellow fever, one of intermittent, and one of febricula occurred. On the 24th, a marine was attacked with yellow fever, which resisted all treatment, and proved fatal on the 28th, after black vomit taking place. A case of febricula occurred on the 24th, in the person of a boy, who recovered in four days. On the 25th, another case of febricula was entered on the sick-list, the subject of it being one of the engineers who had been employed at Loando Island, and on the same day one of the stokers belonging to this working party was attacked with yellow fever, but recovered. On the 27th, the assistant paymaster and the carpenter were seized with yellow fever. The former sank rapidly, and died on the 30th. He had not black vomit, but there was great irritibility of stomach, hiccough, and yellowness of the skin present. The latter case was very severe, but recovery took place after he was sent to hospital on the 6th of November. On the 28th, an acting sub-lieutenant and a serjeant of marines were attacked with yellow fever. The latter died on the 3rd of November, with symptoms very similar to those of the assistant paymaster; and the former died on the 2nd of November after having had black vomit twice, followed by convulsions. On the 29th of October, a boy was attacked and sent to hospital on the 6th of November. On the 30th of October two marines were attacked,

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tacked, and on the 31st a seaman, and were sent to hospital on the 6th of November.

"On the 1st of November, the assistant surgeon was attacked with yellow fever, attended with great nervous depression, physical prostration, and uncontrollable vomiting, ending in black vomit, and death on the 6th of November, two days after our arrival at Ascension. On the 1st, one case of fever, apparently of the remittent type, occurred. The patient was sent to hospital on the 7th, and recovered. On the 2nd, two cases of remittent fever took place, and the patients were discharged to hospital on the 6th and 7th, where they soon recovered; on the 3rd, one case of yellow fever, which was sent to hospital on the 7th, and did well; on the 4th, another case of yellow fever, which was sent to hospital on the 7th, and got rapidly well; on the 5th, two cases of yellow fever, in the persons of a seaman and a boy: the former died on board with black vomit, on the 10th, and the latter was sent to hospital on 8th, where he died on the 13th. On the 6th the boatswain was attacked with febricula, but soon recovered; on the 16th of November, a seaman was attacked with yellow fever, and after being sent to hospital on the 18th made a very slow recovery. It was said, indeed, that he had black vomit at one time, but this is doubtful. Great debility, however, followed, and a large abscess formed superficially on the right lumbar region, which did not heal until the ship had arrived in England on the 9th of January 1866. On the 7th of November a case of remittent fever occurred, was sent to hospital, and did well. On the 8th, a ward-room officer and the captain's steward were seized with slight attacks of fever, and the captain's servant with yellow fever, for which he was sent to hospital on the 11th, and died with black vomit on the 13th. On the 10th there were two mild cases of yellow fever, and on the 11th, three. On the 13th, three cases; and on the 14th, two, severe, one of which proved fatal on the 19th in the person of a ward-room officer's servant. On the 6th of November, I myself was sent to hospital, and next day all the crew, with the exception of about five men and the kroomen, were landed, and placed under canvas tents on the Clinker at Comfortless Cove, Ascension; but, unfortunately, a party of our ship's company were sent on board daily to assist the kroomen in clearing the holds, and cleansing and fumigating the ship with sulphur; the consequence was that fresh attacks took place almost daily amongst these men. On the 6th of December the ship was cleared of all Europeans, with the exception of the captain and three watch-keepers, who remained on board throughout, and on the 9th all the crew embarked, and the ship sailed for England.

"During our sojourn at Ascension, thirty cases of fever occurred between the 15th of November and the 9th of December, and of these four had a fatal termination; one at the camp in Comfortless Cove, and the other three at the Mountain Hospital. After leaving Ascension for England, twelve fresh cases of fever occurred on the passage home, and of these four proved fatal: one in the person of an officer, who died on the 18th of December, after six days' illness, the second died on the 20th of December, also after six days' illness; the third occurred in the person of a stoker, who also

expired

expired on the 20th, after four days' illness; the fourth was the last attack of fever; it set in on the 20th of December, and proved fatal on the 24th.

"The ship had now got into the cold north latitudes, and no further seizures of the disease took place, which shows that cleansing and fumigation of a vessel infected with yellow fever are not effectual in staying its ravages, and that nothing but cold is sufficient for this purpose."

It was certainly an unhappy circumstance that the exigencies of the service should have detained the vessel so long at Loando after the decided character of the disease in Lynch's case was established. Had those measures been at once taken which all experience has proved to be alone effectual in combating this fearful disease, and which were ultimately adopted—viz., that of making at once for a cold latitude—there can be little doubt that much suffering would have been spared, and many lives saved. The attempt to eradicate the disease by cleaning the holds and fumigating the ship within the tropics is certain to prove futile, and likely to be attended with disastrous consequences, as has been frequently pointed out in these Returns.

The medical officer* who took charge of the Archer on the surgeon of the vessel being laid up, makes the following observations on this epidemic;—

"The first case of yellow fever which appeared on board was that of a man called Lynch, an able seaman belonging to Her Majesty's ship Ranger, who was left at St. Paul's de Loando as a witness at a Court of Adjudication, respecting a vessel which the above ship had seized under suspicious circumstances. This man was brought on board the Archer from the Pioneer on the 6th of October, and died on the 8th. He died in a hammock opposite the midshipmen's berth, or nearly so; and it is a remarkable fact, that all the midshipmen got fever, and five out of seven died with black vomit. The assistant surgeon, who died of yellow fever, occupied a cabin close to the midshipmen's berth on the same side. It is also worthy of note, that all the servants who attended in the captain's pantry, four in number, were seized with fever, as also an ordinary seaman who was doing duty as clerk in the office immediately opposite. The pantry is situated on the port side immediately abaft the ward-room, and on the opposite side of the ship to the midshipmen's berth, which is on the starboard side. The disease seemed to affect the younger members of the crew chiefly, and appeared to be especially confined to

* Acting Surgeon D. W. N. Johnston.

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to the steerage, as all the men who kept sentry in that part of the ship said they were taken ill whilst on duty."

With reference to the cases that occurred on the voyage to England, he says:—

"In nearly every instance the disease set in with the same symptoms—viz., headache, pain along the spine, great prostration of strength, and depression of spirits, accompanied generally with irritability of stomach, and bilious vomiting. The tongue was coated with a white or brown fur. The pulse varied from 80 to 100, and was hard. In the more severe cases the irritability of the stomach continued throughout the whole course of the disease, attended with great despondency, enervation, and a tremulous state of the tongue, which was protruded unwillingly and with difficulty. As the disease progressed, it became covered with black sordes, and in some instances, before the patient died, the sordes cleaned off, leaving the tongue red and irritable looking. The urine in all the bad cases was either suppressed or passed in small quantities, and highly coloured. The bowels were for the most part regular, occasionally relaxed. Great uneasiness was experienced at the epigastrium, which was described as not painful, but of a dragging and sinking character, which caused the patient to keep constantly whining. The vomit, which at first consisted of a greenish or white glairy fluid, as the disease progressed became diffused with a quantity of small detached portions of the mucous lining, and shreddy fibrinous casts, interspersed with small dark particles, apparently disorganised blood corpuscles. As the disease assumed an aggravated form, the matters vomited consisted of disorganised blood, mixed with the ingesta. At this stage of the disease the gastric irritability was, in a number of instances, accompanied by singultus, the pulse was slow and small, varying from 60 to 70, and frequently of an intermittent character. The conjunctivæ were always more or less injected; in some instances, black patches appeared on various parts of the skin, and the fingers became cramped. These symptoms always preceded a fatal result. Although there were two cases of recovery after well-marked black vomit had set in, the disease in these cases was unaccompanied by most of the other unfavourable symptoms. Convalescence began by the formation of large abscesses, and a miliary eruption over the face and upper part of the body.

"When the disease assumed a mild form, the pyrexial symptoms usually abated before the end of the first forty-eight hours, and the irritability of the stomach ceased or became amenable to the treatment adopted; a vesicular eruption appeared about the lips and alæ of the nose, the action of the skin became established, and the urine passed copiously. A yellow state of the adnata often remained for weeks after convalescence had been confirmed. In one instance, where the case terminated fatally, the disease assumed a distinct dysenteric form, and so irritable did the lower bowel become, that the patient was with difficulty retained in bed. This morbid condition was finally checked, but the patient soon afterwards died with black vomit, and extreme debility. In another case, which recovered, irritability

of

of the stomach ceased on the occurrence of profuse bleeding from the gums.

"In treating this disease, I was obliged, in a great measure, to be guided by the particular nature of the cases, meeting the individual symptoms as they arose by medicine, and aiding nature as much as possible in the effort to throw off the disease. As soon as a man was known to complain, he was immediately removed from the others and entered on the sick-list. The bowels being generally confined, a compound purgative pill was at once administered, and, if necessary, followed by from two to three drops of croton oil, which never failed to produce the desired effect. Small doses of calomel, from two to three grains, combined with compound antimonial powder and an aromatic, was prescribed three or four times daily, but in cases of much gastric irritation the medicine was withheld. In all those cases in which gastric irritation began at an early stage of the disease, the remedial measures were in consequence very much interfered with, so that it was impossible to say, with accuracy, to what extent the medicine had been attended with benefit. When the stomach retained it, however, I believe the results were good. Hydrocyanic acid and chloroform were chiefly used as sedatives. Creosote was found objectionable on account of its nauseating effects and its being frequently rejected. These were often given previous to administering either medicine or nourishment, and were usually attended with satisfactory although temporary results.

"When the above failed and the gastric symptoms became aggravated, large sinapisms were applied to the chest and abdomen. Ten drops of sulphuric acid and half a drachm of chloric æther were administered, and these never failed, for a time at least, in checking the hiccup and vomiting, and suppressing the hæmorrhage from the stomach and bowels. The muriated tincture of iron was also accompanied by excellent results. When head symptoms supervened, the hair was cut close to the scalp, and vinegar cloths applied. Blisters were also applied to the nape of the neck. In one case of plethoric habit, where there was considerable febrile excitement, accompanied with epistaxis, and a full, hard pulse, blood was withdrawn from the arm to eight ounces. This checked the epistaxis, and alleviated the headache. Black vomit set in five days from the date of attack, and the patient died two days afterwards, with the most malignant symptoms. This was the only case which terminated fatally, that withstood the disease until the seventh day. The patient was a day ill before he complained."

Another version of the origin of this epidemic is given by the surgeon* of the Mæander, the vessel permanently stationed at Ascension. As it is the result of hearsay evidence, and is not of a very precise character, it is probably not of much value, although it is not without a certain degree of interest; no

* Surgeon A. S. Pratt.

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no allusion, however, is made to the circumstances referred to, by either of the medical officers of the Archer. He says:—

"I was told that an officer had boarded a merchant vessel somewhere near St. Paul's de Loando, to ascertain whether she was a legal trader or not, and not thinking she might be in a sickly state stepped on board, and began to make the necessary inquiries, when they told him that several of the crew had been laid up with yellow fever, but were then convalescent, and doing well; and on putting further questions as to how they accounted for its making its appearance on board, they informed him that they had communicated some little time before with another merchant ship lately arrived on the West Coast of Africa, from Cuba, in the West Indies, and she had lost several of her men with the fever, and had some then sick. As soon as the boarding officer had received the necessary answers to the questions he put, without attempting to visit any other part of the vessel, he returned to inform his captain of what he had then been told; and, under the circumstances, they held no further communication with her. The same evening the boarding-officer was seized with all the symptoms of fever, which eventually turned out to be yellow fever; and from the day he was seized, others on board in rapid succession took it."

During the Michaelmas quarter of the year, fever of a very malignant type was prevailing on shore at Sierra Leone, causing a mortality amongst the European population, it is said, to the extent of twenty-seven per cent. In the Isis, receiving-ship, permanently stationed there, with a complement of about twenty-eight men, of whom six only were Europeans, there were also numerous cases of fever during the same quarter, all of which are classed as remittent, and of which one only proved fatal. In the Christmas quarter of the year, however, the same form of fever continuing, there occurred four cases of specific yellow fever, according to the returns, all of which proved fatal, and there can be little doubt that all the so-called cases of remittent fever, in both quarters, were only modified forms of the more malignant disease; for, on making a careful analysis of the sick-list, it appears that, in point of fact, seven deaths occurred in the Isis (three of these being in the persons of supernumeraries) among twenty-seven Europeans attacked with fever, this being the average rate of mortality of specific yellow fever; and that the remaining persons attacked were Kroomen, in whom the disease rarely, if ever, assumes a malignant character. The first fatal case occurred in the person of the ship's steward, who had been in attendance on the sick. He died on the 28th of September, with all the symptoms of specific yellow fever, having had hæmorrhage from the different mucous

mucous surfaces, and black vomit. The next fatal case was placed on the sick-list on the 18th of October; it occurred in the person of a ship's steward's assistant, who had just arrived from England, and had joined the Isis four days previously. The attack was characterised by the severity of the head symptoms, and the irritability of the stomach. This latter symptom, however, very much abated before his death, which occurred on the night of the 20th. There does not appear to have been any black vomit in this case. On the 19th of October an engineer officer who had arrived at Sierra Leone at the same time as the previous patient, and had joined the Isis on the 12th, was placed on the sick-list, complaining of great lumbar pain, which had been preceded by rigors. He appeared to be doing very well until the morning of the 25th, when he was found to be exceedingly weak in consequence of having lost a quantity of blood during the night, from an accidentally cut finger. On the 26th it was reported that he had slept well, and felt better; the pulse was, however, weaker than on the previous day, and the tongue was brown in the centre, moist, and fissured. In the forenoon the pulse became weaker, blood oozed from the mouth, and the tongue was coated with it. The cut in the finger bled afresh. That night he became very delirious, and died on the following morning.

The next fatal case occurred in the person of a ship's steward's assistant, who had been sent from the Rattlesnake, at Ascension, and had joined the Isis on the 20th of November. He was placed on the sick-list on the 27th of November, complaining of headache; the skin was very hot and dry, the pulse full and accelerated, the tongue clean, and the bowels confined. On the following day the head symptoms were more severe, the skin was still very hot and dry, the face was flushed, the tongue coated with a white fur, and he appeared much oppressed. On the afternoon of the 29th the report of the medical officer* of the ship is as follows:—

"3.30 p.m.—Has twice vomited a dark fluid resembling blood; has passed the same from the bowels, the evacuations having an abominable odour. He was placed in as isolated a position as possible, and disinfecting fluid sprinkled around the deck. The head being intensely hot, with great symptoms of oppression, the pulse at the same time being full and hard, 110, three dozen leeches were applied, blistering fluid brushed over the back of the head and neck,

* Dr. Robert Potter.

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neck, and large sinapisms applied to the thighs and legs. Temperature of skin in axilla 103⅘°. Ordered effervescing draughts frequently, each containing five minims of chloroform. 9 p.m.—He says he is much better, and looks so; no vomiting for some time. 30th.—Passed a restless night; black vomit occurred several times. I saw him at 5 a.m. and again at 7.30 a.m. He was taking the effervescing draughts as ordered yesterday, and had not vomited for some time. He said he felt much better but weak, and asked for something to eat. At 8.30 a.m. he commenced vomiting a grumous fluid, black as ink. At 9 o'clock he was delirious, and soon became comatose; quantities of black vomit continuing to flow from his mouth. At 10.30 a.m. he expired."

A bandsman of the Rattlesnake, suffering from diarrhœa, and who had been sent on board the Isis for treatment on the 26th of November, was the next victim. His case was a somewhat peculiar one, but he died on the 4th of December, having had hæmorrhage from the mouth, and having passed from the bowels large quantities of a brown liquid matter.

On the 12th of December the mail steamer from England arrived, bringing a commander and his servant to join the Sparrow on the station. They went on board the Isis on the following day, and each was ordered four grains of quinine to be taken every morning. On the night of the 15th the servant complained of violent headache and pains in the loins. The pulse was quick, the skin hot, and he had a feeling of nausea. On the 20th he was incessantly vomiting a brown fluid, and had epistaxis several times during the day. On the 21st the report was—

"Spent a restless night; bled from the nose several times; has just vomited about a pint of a perfectly black fluid; skin very hot; pulse barely perceptible; stomach retains nothing. *Noon.*—Vomiting black fluid continually, one or two ounces at a time. It seems to come up without the slightest effort. Pulse thready. 4 p.m.—Has not vomited since 3 p.m. Very feeble, but still quite conscious. 8.20 p.m.—Sunk into a deep sleep about 6 p.m. Soon became comatose, and died at 8.20 p.m."

About 2 a.m. of the morning of the 18th the commander of the Sparrow had a rigor followed by great heat of skin, and profuse perspiration. At 7 a.m. he had violent pains in the head and loins; the pulse was 134, small; the skin cool, perspiring. On the 20th, at 1 p.m., the report was—"Has twice vomited a brown fluid. 2 p.m.—Very dull; constantly dozing; great oppression about the head; respirations laboured, eleven in the minute; pupils natural. 3 p.m.—Head and body quite cold; pulse barely perceptible; is excessively weak

weak; has just vomited about a quart of thick dark brown fluid; twitching of muscles round the mouth; champagne in small quantities to be given frequently. 6 p.m.—Slight reaction; skin warm; pulse stronger (100); speaks collectedly, but is much inclined to doze; gave a nutritive enema of soup and brandy; continued champagne by mouth. He has not vomited since 3 p.m. Not having passed urine for at least fourteen hours, and there being none in the bladder, had a large sinapism applied to his loins; gave some arrow-root and brandy by the mouth; he complains much of thirst. 12, *midnight*.—Has not vomited; very dull, almost comatose; head and face cold; face and arms bedewed with a cold sweat." He became comatose shortly after midnight, with low muttering delirium, and died at 5 a.m. of the 21st of December, having had no vomiting since 3 o'clock of the previous day. No urine had been secreted for at least twenty-four hours. His body, which was of a light lemon colour when he died, became a deep orange two hours after death.

Between the 28th of September, when the first fatal case occurred, and the 21st of December, there were eighteen intercurrent cases of what are termed remittent fever. These, as has been already said, were doubtless cases of specific yellow fever, and it was probably owing to the persistent manner in which the poison was kept up by being passed from one person to another, that the Isis became so thoroughly impregnated with it, and caused the disastrous outbreaks in the Rattlesnake and Bristol, on their holding communication with her, as will be observed hereafter.

Five cases of yellow fever appear in the returns of the Rattlesnake for the Christmas quarter of the year, but during the same period there were seventeen cases of what are termed remittent and ephemeral fevers, which were doubtless of the same type as the more deadly disease. The surgeon* of the ship, indeed, says:—

"I have classed fifteen cases of fever as remittent, two as ephemeral, and five as yellow fever, but they may all be looked upon as the latter disease, differing only in intensity, and as to the presence or not of black vomit."

Unhappily, this medical officer was so ill during the whole period of the epidemic that but little connected history of it can

* Surgeon Samuel Clift.

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can be obtained. The Rattlesnake arrived at Sierra Leone, from Ascension, on the 22nd of November; and, in consequence of the serious illness of the surgeon, the assistant-surgeon of the Isis was called upon to perform the medical duties of the ship, there being no apprehension at the time that any harm could come from communication with the Isis. There was therefore free intercourse between the vessels until the 27th of November, when a ship's steward's assistant, who belonged to the Rattlesnake, but was doing duty on board the Isis, was seized with symptoms of specific yellow fever, of which he died in four days. This lad had been frequently on board the Rattlesnake during the interval between her arrival and the setting-in of his own fatal illness. The Isis was now placed in strict quarantine; the assistant-surgeon's visits were interdicted; and, for a time, the medical duties of the ship were conducted by military medical officers from the shore. This state of matters continued until the 3rd of December, when an assistant-surgeon* arrived from England, and took charge of the sick. Several cases of fever, it is stated, were at this time on the sick-list, and on the 13th the first fatal case of yellow fever occurred in the person of a carpenter's mate who had recently been under treatment at Ascension for hepatitis. He presented himself at 4 p.m., stating that he had had rigors in the early morning, and felt ill all day. He was very feverish, the tongue was flabby and white, but not much coated; he had thirst, and nausea without vomiting. The skin was hot, the pulse rapid, and there was severe frontal headache, with aching pains in the limbs and back. His symptoms were somewhat less severe on the 14th, but on the evening of the 15th it is reported that there was suppression of urine, the face was anxious, and he had had some vomiting, but only of the fluids swallowed. On the morning of the 16th he was very weak, and the features were much pinched; the mouth was dry, the tongue furred; there was low muttering delirium. He was offered wine and water as a drink, but after two or three ineffectual attempts at swallowing he vomited about two ounces of slimy matter with dark streaks in it. The vomiting was continued at intervals, the fluid ejected becoming of a darker colour, and by 9 p.m. he had vomited several ounces of very dark fluid, resembling coffee-grounds. After this time he gradually sank, and died the same

* Assistant-Surgeon George Edward Wright.

same night. A very small quantity of urine was voided in the evening. It is not positively known whether this man had been on board the Isis or not, but it is said that he might have been.

The next fatal case was that of the boatswain who had been employed on duty in the Isis. He was taken ill on the 16th of December, and died with black vomit, and all the most malignant symptoms of yellow fever, on the 20th. For two or three days before his death there had been constant oozing of dark-coloured venous-looking blood from his mouth, apparently from the tongue and gums. This continued clotting and adhering to his lips until his death.

On the 21st of December the assistant-surgeon who had recently joined, and who had been day and night in assiduous attendance upon the cases of fever that were occurring, was himself taken ill. His case was one of great severity, accompanied with hæmorrhage from the nose, and profuse black vomit. He died on the morning of the 24th of December. He had spent one or more evenings, it is said, on board the Isis.

The next fatal case was that of one of the carpenter's crew, who had been at work on board the Isis. He was placed on the sick-list on the same day as the preceding case, and died on the morning of the 25th of December. In this case there was oozing of dark venous-looking blood from the mouth and nostrils, and the black vomit was more profuse than in any other instance. "It was not like an ordinary case of vomiting, but it spouted from him as from a shoot, over everything, even yards from his cot."

The last fatal case was that of the ship's painter, who also had been employed on board the Isis. He was placed on the sick-list on the forenoon of the 23rd of December, and died on the morning of the 26th, having had profuse black vomit, and oozing of dark-coloured venous-looking blood from his mouth and nostrils.

The cases of fever were now becoming so numerous that it was determined to proceed at once to England, and the vessel accordingly left Sierra Leone on the 24th of December, and proceeded at once to the northward. Gradually, as colder latitudes were gained, the cases became less frequent and less severe, and finally ceased.

There can be no question as to the infection in these cases having been derived from the Isis, and this will be made more apparent when the history of the yellow fever epidemic

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in the Bristol is considered; that, however, more properly belongs to the report for the year 1866, where the circumstances in connection with it will be fully detailed.

On referring to Table IV., it will be observed that eight deaths from yellow fever appear in connection with the Rattlesnake, and two with the Sparrow. Three of those of the Rattlesnake have been previously referred to as occurring on board the Isis, as also were those of the commander of the Sparrow and his servant.

Small-pox.—There were six cases of small-pox in the squadron, four in the Rattlesnake, and two in the Vindictive. Both of those in the Vindictive proved fatal. All the cases occurred in the persons of kroomen, the disease in the Rattlesnake having apparently been contracted at Fernando Po, and in the Vindictive at Jella Coffee.

Diseases of the Brain and Nervous System.—The ratio of cases coming under this head is more than double that of the preceding year, and the death-rate more than treble. The invaliding rate, however, is lower. Much of the increase in the ratio of cases is attributable to the prevalence of vertigo in one vessel. It appears to have been of a severe and protracted character, and was evidently the result of insolation.

There were three deaths from apoplexy. One of these occurred in the person of an officer's servant, and was the result of the abuse of stimulants, combined probably with some amount of exposure to the sun's rays at Sierra Leone. No details in connection with the second case are in office. It appears, however, that the man, a marine, was ten days under treatment, during the whole of which time he was unconscious. The third case was one of serous apoplexy, occurring in a petty officer of the Zebra. He stated that for two or three weeks previous to his being placed on the sick-list, he had been feeling unwell, suffering chiefly from debility, giddiness, and occasional headache. There appeared also some uncertainty of step in walking. These symptoms had become aggravated two days before he was placed on the sick-list on the 16th of January, and his messmates fancied that they had noticed a changed and vacant appearance in his manner for at least ten days. On the evening of the 18th of January, two days after his admission to the sick-list, he had a partial apoplectic fit. He was placed in a cot, and a pill composed of

of five grains of calomel with one drop of croton oil, was placed on the back of his tongue, and easily swallowed. The medicine operated freely, and next day he was able to express himself as feeling better, and appeared tolerably sensible. The pupils acted freely under the influence of light, the pulse was regular, 74, and of rather small volume. He appeared to be progressing fairly until the afternoon of the following day, when he had another fit of an apoplectic character, and of much greater severity. The pupils became totally insensible to light, the breathing was stertorous and the pulse slow. The functions of the brain appeared to be entirely suspended. Despite all efforts to arouse him from this condition, he remained in a state of profound coma until the 21st, when death took place. On post-mortem examination of the body, the brain was thought to be somewhat softer than natural. The convolutions were slightly flattened, as if from pressure. No clot could be discovered, but the lateral ventricles contained a large quantity of serous fluid, having a bloody discoloration. There were no other appreciable morbid appearances in the brain, and no other part of the body was examined.

There were eight cases of delirium tremens in the squadron, two of which proved fatal. Of these one-half occurred amongst commissioned officers; two in the persons of marines; one in a seaman; and one in a stoker.

Diseases of the Organs of Respiration.—There was a reduction in the ratio of cases coming under this head, as compared with the preceding year, equal to 29·5 per 1,000. The invaliding rate, however, is much higher, and there is also an increase in the ratio of mortality. A krooman of the Vindictive died of acute pneumonia. These men are very liable to chest diseases, which usually prove very severe with them, and frequently have a fatal termination. There were two deaths from phthisis in the Zebra.

Diseases of the Heart and Bloodvessels.—There was a slight increase in the ratios of cases and invaliding under this head, as compared with the preceding year. The death-rate is almost precisely the same. Only one death, in fact, occurred, and no detailed information has been received respecting it. The case was one of disease of the heart, the person affected being a marine of the Mæander. He died in the hospital at Ascension.

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Diseases of the Alimentary Canal.—There is a reduction in all the ratios coming under this head, as compared with the previous year. In the ratio of cases the reduction is equal to 47·5 per 1,000 of mean force; in the invaliding rate to 1·; and in the ratio of mortality to ·3.

A seaman of the Dart died of hæmatemesis in the Naval Hospital at Ascension. He suffered from great enlargement of the liver, and was in a very prostrate state when admitted to hospital. On post-mortem examination of the body the æsophageal end of the stomach was found in a chronic state of inflammation, with great engorgement of the vessels from which the bleeding had evidently proceeded.

Diarrhœa and Dysentery.—Eighteen cases of dysentery and 175 of diarrhœa were under treatment during the year, and of these, four cases of dysentery proved fatal. All these fatal cases occurred in the persons of kroomen, who appear to be more prone to this form of disease on the West Coast of Africa than Europeans.

Referring to some cases of diarrhœa that occurred in the Dart, the medical officer says:—

"Two cases of irritable diarrhœa were under treatment, one of which occurred the day we left Loando, the other on the day after; and both were evidently the result of some indigestible food, as none of the shore water, which is such a fertile cause of these disorders, on account of its abundant saline constituents, had been used. Both also were relieved in two or three days by a dose of castor oil with laudanum, followed by tonics and astringents, with the addition of anodynes when indicated by the symptoms.

"It may be as well to mention here that St. Paul de Loando is noted for the numerous cases of diarrhœa which almost invariably occur in cruisers calling there, at least for the first few times, until the causes of the evil are detected. Of these there are several, the the first and the worst being the water, which is brought up in casks by kabenda boats from Bengo Bay, and some of the cases caused by this agent assume almost a dysenteric character, the tormina, tenesmus, and fluid stools being excessive; but I never met with a case in which there was either a sanguineous or a muco-lymphous discharge. Next come fishes cooked in palm oil, which are purchased from the bumboats alongside; and besides these, there are, of course, many others amongst the edible articles sold alongside; but the first two are the principal ones, and the only ones I have been able to isolate completely and satisfactorily.

"The most successful treatment I have found to be full anodyne doses of laudanum pushed as far as possible, and combined with copious

copious demulcents, such as barley or rice water, mucilage, arrow-root, &c. Stimulants must also be given, for the exhaustion produced by the loss of so much serosity is usually considerable; and, of course, the further introduction of the toxic agent into the system must be carefully prevented."

Very general testimony is borne by the medical officers of the squadron to the evil effects of Bengo water. Beside the more immediate dysenteric diarrhœa it is liable to occasion, the surgeon of the Archer thinks that a case of tænia he had under treatment was probably dependent on the same cause. All the officers recommended distilled water being used for drinking purposes at St. Paul's de Loando.

Diseases of the Liver.—The ratio of cases, and the invaliding rate from diseases of the liver, were almost precisely the same as in the preceding year. No mortality, however, was occasioned by them. Six cases of inflammation of the liver appear in the return from the Sparrow. In almost all of these the disease was chronic, and two or three of the attacks occurred in one person who had previously suffered from dysentery in China.

Diseases of the Genito-Urinary Organs.—There was a considerable increase in the ratio of cases of venereal disease, as compared with the preceding year. This was chiefly referable to the more frequent communication with St. Helena that was held by the ships of the squadron. From the peculiar character of the station these diseases can hardly be said to prevail upon it to such a degree as to affect to any extent the health of the various ships' companies; and when any more than usual number of cases occurs in a squadron, it will commonly be found to depend either upon the importation of the disease from England, or to contagion at St. Helena.

Rheumatism.—There was a great reduction in the ratio of rheumatic cases as compared with the previous year; there was, however, an increase in the invaliding rate; and one death was occasioned by this disease. The fatal case occurred in the person of a boy of the Rattlesnake, who, within three months, had two attacks of the disease in a very acute form. The second attack proved rapidly fatal, the boy having been only placed on the sick-list on the 30th of September, and discharged to hospital on the 2nd of October, where he died three days afterwards. From the history of his case in hospital,

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it appears that he died of metastasis of the disease of the brain.

Diseases not Classed.—Under the head of Dyspepsia and Debility, a death appears in Table IV. in connection with the Jaseur. It occurred in the person of an officer, who having contracted gonorrhœa at St. Helena was subsequently attacked with rheumatism in a rather severe form. He, however, recovered from these affections sufficiently to permit of his being discharged to duty. He never, however, regained his appetite, and rapidly became much emaciated and feeble, complained of inability to go up ladders, and of vertigo on assuming the erect posture. Gradually he became drowsy and sleepy, was unable to get out of bed, and began to talk incoherently. He passed his urine involuntarily and appeared to be rapidly sinking. From this condition, however, he rallied for a time, but fell off again, and ultimately sank through sheer exhaustion. He had served long in China where he had frequently suffered from dysentery, and it is to that circumstance, combined with his recent attack of venereal disease, that the medical officer of the vessel attributes his death.

Wounds and Injuries.—Two men fell from aloft and sustained fatal fractures of the skull; one man was killed by a fall on shore; and a man sustained a fatal gunshot wound in action. The cause of death in one instance is not given. Twelve men were drowned. Of these, six were capsized in boats; one was swamped in a boat; four fell overboard; and one was drowned in attempting to swim off to the ship. The total number of deaths was eighty-two, which is in the ratio of 48·2 per 1,000 of mean force, being an increase, as compared with the preceding year, equal to 28·4 per 1,000. This is almost entirely attributable to the epidemics of yellow fever in the Archer, the Isis, and the Rattlesnake.

Invalided.—Thirty-two persons were invalided for the sequelæ of fever; three for diseases of the brain and nervous system; nineteen for diseases of the organs of respiration; eight for diseases of the heart and bloodvessels; seven for diseases of the alimentary canal; six for disease of the liver; fifteen for diseases of the genito-urinary organs, one-half of whom suffered from stricture; seventeen for rheumatism; two for diseases of the special senses; seven for diseases of the skin and

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and cellular tissue; eighteen for diseases not classed, chiefly different forms of climatic cachexia; six for wounds and injuries of various kinds; and one for hernia; making the total number invalided 141, being in the ratio of 82·9 per 1,000 of mean force, which is an increase, as compared with the previous year, equal to 29·5 per 1,000.

TABLE, No. 1.

SHOWING the Number of CASES of all DISEASES and INJURIES, and the Number INVALIDED and DEAD, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Continued and Remittent Fever	822	483·5	29	17·	7	4·1
Yellow Fever	65	38·2	-	-	34	20·
Intermittent Fever	138	81·1	2	1·1	—	—
Small Pox	6	3·5	-	-	2	1·1
Scarlatina	-	-	1	·5	—	—
Disease of the Brain	1	·5	—	—	—	—
Apoplexy	4	2·3	-	-	3	1·7
Epilepsy	10	5·8	2	1·1	—	—
Paralysis	1	·5	-	-	1	·5
Insanity	2	1·1	1	·5	1	·5
Delirium Tremens	8	4·7	-	-	2	1·1
Neuralgia	7	4·1	—	—	—	—
Vertigo	19	11·1	—	—	—	—
Inflammation of the Lungs and Pleura	28	16·4	7	4·1	1	·5
Phthisis and Hæmoptysis	14	8·2	10	5·8	3	1·7
Influenza and Catarrh	207	121·7	1	·5	—	—
Cynanche	22	12·9	—	—	—	—
Asthma	3	1·7	1	·5	—	—
Disease of the Heart, Functional and Organic	25	14·7	5	2·9	1	·5
Hæmorrhoids	14	8·2	1	·5	—	—
Varix	1	·5	2	1·1	—	—
Disease of the Stomach and Bowels	3	1·7	2	1·1	4	2·3
Dysentery	18	10·5	4	2·3	4	2·3
Diarrhœa	175	102·9	1	·5	—	—
Constipation and Colic	58	34·1	—	—	—	—
Disease of the Liver	13	7·6	6	3·5	—	—
Jaundice	2	1·1	—	—	—	—
Splenitis	1	·5	—	—	—	—

TABLE, No. 1.—Showing the Number of Cases of all Diseases, &c.—*continued.*

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	3	1·7	2	1·1	—	—
Syphilis	72	42·3	4	2·3	—	—
Gonorrhœa	68	40·	—	—	—	—
Orchitis	31	18·2	2	1·1	—	—
Stricture	14	8·2	7	4·1	—	—
Incontinence of Urine, &c.	2	1·1	—	—	—	—
Rheumatism	196	115·2	17	10·	1	·5
Gout	1	·5	—	—	—	—
Disease of the Bones and Joints	17	10·	—	—	—	—
Inflammation of the Eyes	14	8·2	—	—	—	—
Amaurosis and Cataract	2	1·1	2	1·1	—	—
Otitis and Deafness	12	7·	—	—	—	—
Erysipelas	5	2·9	—	—	—	—
Scrofula	2	1·1	—	—	—	—
Bubo (*Symp.*)	61	35·8	2	1·1	—	—
Phlegmon and Abscess	491	288·8	—	—	—	—
Ulcer	274	161·1	4	2·3	—	—
Psora	7	4·1	—	—	—	—
Eruptions, &c.	19	11·1	1	·5	—	—
Dyspepsia and Debility	233	137·	17	10·	1	·5
Dropsy	5	2·9	—	—	—	—
Worms	6	3·5	—	—	—	—
Headache	24	14·1	1	·5	—	—
Wounds and Injuries	466	274·1	6	3·5	4	2·3
Burns and Scalds	20	11·7	—	—	—	—
Hernia	9	5·2	1	·5	—	—
Drowned	-	-	-	-	12	7·
Not stated	-	-	-	-	1	·5
TOTAL	3,721	2188·8	141	82·9	82	48·2

TABLE, No. 2.

SHOWING the Number of DAYS' SICKNESS from each DISEASE, and from INJURIES, the Average Number of Men Sick Daily, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Continued and Remittent Fever	8,398	888	9,286	25·4	14·9
Yellow Fever	488	-	488	1·3	·7
Intermittent Fever	1,246	42	1,288	3·5	2·
Small Pox	66	-	66	·1	—
Scarlatina	30	-	30	—	—
Disease of the Brain	1	6	7	—	—
Apoplexy	209	17	226	·6	·3
Epilepsy	128	31	159	·4	·2
Paralysis	7	-	7	—	—
Insanity	6	-	6	—	—
Delirium Tremens	48	-	48	·1	—
Neuralgia	31	46	77	·2	·1
Vertigo	249	-	249	·6	·3
Inflammation of the Lungs and Pleura	397	175	572	1·5	·8
Phthisis and Hæmoptysis	448	149	597	1·6	·9
Influenza and Catarrh	1,125	11	1,136	3·1	1·8
Cynanche	120	-	120	·3	·1
Asthma	21	56	77	·2	·1
Disease of the Heart, Functional and Organic	408	175	583	1·5	·8
Hæmorrhoids	337	121	458	1·2	·7
Varix	31	6	37	·1	—
Disease of the Stomach and Bowels	40	95	135	·3	·1
Dysentery	180	331	511	1·4	·8
Diarrhœa	900	139	1,039	2·8	1·6
Constipation and Colic	246	24	270	·7	·4
Disease of the Liver	142	120	262	·7	·4
Jaundice	28	-	28	—	—
Splenitis	9	-	9	—	—

Table, No. 2.—Showing the Number of Days' Sickness from each Disease, &c.—*cont^d.*

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	22	40	62	·1	—
Syphilis	1,378	341	1,719	4·7	2·7
Gonorrhœa	1,186	154	1,340	3·6	2·1
Orchitis	598	135	733	2·	1·1
Stricture	287	473	760	2·	1·1
Incontinence of Urine, &c.	45	-	45	·1	—
Rheumatism	2,200	580	2,780	7·6	4·4
Gout	3	-	3	—	—
Disease of the Bones and Joints	226	25	251	·6	·3
Inflammation of the Eyes	133	-	133	·3	·1
Amaurosis and Cataract	47	-	47	·1	—
Otitis and Deafness	134	-	134	·3	·1
Erysipelas	36	-	36	—	—
Scrofula	89	-	89	·2	·1
Bubo (*Symp.*)	360	-	360	·9	·5
Phlegmon and Abscess	4,764	127	4,891	13·4	7·8
Ulcer	5,270	388	5,658	15·5	9·1
Psora	51	7	58	·1	—
Eruptions, &c.	274	17	291	·7	·4
Dyspepsia and Debility	1,332	772	2,104	5·7	3·3
Dropsy	34	42	76	·2	·1
Worms	36	-	36	—	—
Headache, &c.	70	111	181	·4	·2
Wounds and Injuries	5,315	290	5,605	15·3	9·
Burns and Scalds	234	-	234	·6	·3
Hernia	51	-	51	·1	—
TOTAL	39,514	5,934	45,448	124·5	73·2

TABLE, No. 3. - - - - - - - -

SHOWING the Number INVALIDED from each Ship - - -

CAUSE of INVALIDING.	Antelope.	Archer.	Dart.	Espoir.	Investigator.	Isis.	Jaseur.	Landrail.
Continued and Remittent Fever	–	3	2	–	3	4	4	–
Intermittent Fever	–	–	–	–	–	–	–	–
Scarlatina	–	–	–	1	–	–	–	–
Insanity	–	–	–	–	–	–	–	–
Epilepsy	–	–	–	–	–	–	1	–
Inflammation of the Lungs and Pleura	–	2	–	2	–	–	–	–
Phthisis and Hæmoptysis	–	2	4	–	–	–	–	–
Catarrh	–	–	–	–	–	–	–	–
Asthma	–	–	–	–	–	–	–	–
Disease of the Heart, Functional and Organic	–	–	1	1	–	–	–	1
Hæmorrhoids	–	–	–	–	–	–	–	–
Varix	–	–	–	–	–	–	–	–
Inflammation of the Stomach and Bowels	–	–	–	–	–	1	–	–
Dysentery	–	–	–	–	–	–	–	–
Diarrhœa	–	–	–	–	–	–	1	–
Disease of the Liver	–	–	1	–	–	1	–	–
Inflammation of the Kidneys and Bladder	–	1	–	–	–	–	–	–
Syphilis	–	–	–	–	–	–	1	–
Orchitis	–	–	1	–	–	–	–	–
Stricture	–	2	–	–	–	–	–	–
Rheumatism	2	1	1	–	2	–	–	1
Bubo (*Symp.*)	–	–	–	–	1	–	–	–
Amaurosis and Cataract	–	1	–	–	–	–	–	–
Ulcer	–	–	–	1	–	–	–	–
Eruptions, &c.	–	–	–	–	–	–	–	1
Dyspepsia and Debility	–	–	–	–	4	–	–	–
Headache, &c.	–	–	–	–	–	–	–	–
Wounds	–	2	1	–	–	–	–	–
Hernia	–	–	–	–	–	–	–	–
TOTAL	2	14	11	5	10	6	7	3

- - - - - - - - TABLE, No. 3.

- - - - employed on the WEST COAST of AFRICA STATION.

Lee.	Meander.	Pandora.	Ranger.	Rattlesnake.	Snipe.	Sparrow.	Speedwell.	Torch.	Vindictive.	Zebra.	TOTAL.
–	1	3	3	1	–	1	–	1	3	–	29
–	–	–	–	–	2	–	–	–	–	–	2
–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	1	–	–	–	–	1
–	1	–	–	–	–	–	–	–	–	–	2
–	1	–	1	1	–	–	–	–	–	–	7
–	–	–	1	1	–	–	–	–	–	2	10
–	–	–	–	1	–	–	–	–	–	–	1
–	–	1	–	–	–	–	–	–	–	–	1
–	–	–	–	–	1	1	–	–	–	–	5
–	–	–	–	1	–	–	–	–	–	–	1
–	2	–	–	–	–	–	–	–	–	–	2
–	1	–	–	–	–	–	–	–	–	–	2
–	2	–	–	–	–	–	2	–	–	–	4
–	–	–	–	–	–	–	–	–	–	–	1
–	1	–	–	–	1	2	–	–	–	–	6
–	1	–	–	–	–	–	–	–	–	–	2
–	–	–	–	–	–	–	1	2	–	–	4
1	–	–	–	–	–	–	–	–	–	–	2
–	1	1	2	1	–	–	–	–	–	–	7
–	3	–	1	2	1	–	1	–	–	2	17
–	1	–	–	–	–	–	–	–	–	–	2
–	–	–	–	1	–	–	–	–	–	–	2
–	1	–	–	–	–	1	–	–	–	1	4
–	–	–	–	–	–	–	–	–	–	–	1
1	9	–	–	–	–	–	2	1	–	–	17
–	–	–	1	–	–	–	–	–	–	–	1
–	1	–	–	2	–	–	–	–	–	–	6
–	–	–	–	1	–	–	–	–	–	–	1
2	26	5	9	12	5	6	6	4	3	5	141

170.

TABLE, No. 4. - - - - - - - - -

SHOWING the Number of DEATHS in each Ship - - - -

CAUSE OF DEATH.	Antelope.	Archer.	Dart.	Espoir.	Investigator.	Isis.	Jaseur.
Continued and Remittent Fever -	–	1	1	–	1	–	–
Yellow Fever - - - - - -	–	20	–	–	–	4	–
Small-pox - - - - - -	–	–	–	–	–	–	–
Apoplexy - - - - - -	–	–	–	–	–	–	–
Dementia - - - - - -	–	–	–	–	–	–	–
Delirium Tremens - - - -	1	–	–	–	–	–	–
Paralysis - - - - - -	–	1	–	–	–	–	–
Inflammation of the Lungs and Pleura - - - - - -	–	–	–	–	–	–	–
Phthisis - - - - - - -	–	–	–	–	–	–	–
Disease of the Heart - - -	–	–	–	–	–	–	–
Hæmatemesis - - - - -	–	–	1	–	–	–	–
Gastritis - - - - - -	–	–	–	–	–	–	–
Enteritis - - - - - -	–	–	–	–	1	–	–
Dysentery - - - - - -	–	–	–	–	2	–	–
Rheumatism - - - - -	–	–	–	–	–	–	–
Debility and Climatic Cachexia	–	–	–	–	–	–	1
Wounds and Injuries - - -	–	2	–	–	–	–	–
Drowned - - - - - -	–	–	2	4	–	–	–
Not stated - - - - - -	–	–	–	–	–	–	–
TOTAL - - -	1	24	4	4	4	4	1

- - - - - - - - TABLE, No. 4.

- - - employed on the WEST COAST of AFRICA STATION.

Landrail.	Lee.	Meander.	Ranger.	Rattlesnake.	Snipe.	Sparrow.	Speedwell.	Torch.	Vindictive.	Zebra.	TOTAL.
–	1	–	–	–	1	–	1	1	–	–	7
–	–	–	–	8	–	2	–	–	–	–	34
–	–	–	–	–	–	–	–	–	2	–	2
1	–	–	–	–	–	1	–	–	–	1	3
–	–	–	–	–	–	–	–	–	–	1	1
–	–	–	–	–	–	–	–	–	–	1	2
–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	1	–	1
–	–	–	–	–	–	1	–	–	–	2	3
–	–	1	–	–	–	–	–	–	–	–	1
–	–	1	–	–	–	–	–	–	–	–	1
–	–	1	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	1	–	–	1	4
–	–	–	–	1	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	–	–	1
–	1	–	–	–	1	–	–	–	–	–	4
1	–	1	1	–	–	–	–	–	1	2	12
–	–	–	–	1	–	–	–	–	–	–	1
2	2	4	1	10	2	4	2	1	4	8	82

TABLE, No. 5. - - - - - - - -

SHOWING the Names of the SHIPS; the Average Complements, &c.; the Number of Cases; Daily, in each Ship; and the

C. Commissioned. P. O. Paid off.

Rate, &c.	NAMES OF SHIPS.	Where Commissioned.	When Commissioned.	Number of Guns.	Tonnage.	Horse Power.
Sixth Rate - -	Archer - - - -	Woolwich -	30 Mar. 1863	13	973	S. 202
	Rattlesnake - - -	Devonport -	20 Aug. 1862	19	1,705	S. 400
Sloop - -	Zebra - - - P. O.	Sheerness -	5 April 1862	17	951	S. 200
Gun Vessel - -	Dart - - - -	Portsmouth	11 Mar. 1862	5	428	S. 80
	Espoir - - - -	Devonport -	7 Nov. 1864	5	428	S. 80
	Griffon - - - P. O.	Sheerness -	29 June 1861	5	425	S. 80
	Jaseur - - - -	Sheerness -	8 April 1863	5	425	S. 80
	Landrail - - C.	Woolwich -	17 Jan. 1865	5	427	S. 80
	Lee - - - -	Sierra Leone	1 July 1863	5	431	S. 80
	Mullet - - - P. O.	Sheerness -	22 Mar. 1862	5	430	S. 80
	Pandora - - - -	Portsmouth	20 Mar. 1863	5	426	S. 80
	Ranger - - - -	Woolwich -	1 Mar. 1864	5	427	S. 80
	Snipe - - - -	Sheerness -	8 Aug. 1863	5	431	S. 80
	Sparrow - - D.	Devonport -	23 Mar. 1863	5	430	S. 80
	Speedwell - - D.	Woolwich -	8 Sept. 1863	5	428	S. 80
	Torch - - - C.	Chatham -	24 Feb. 1865	5	428	S. 80
Steam Vessel -	Antelope - - P. O.	Woolwich -	6 Aug. 1861	5	650	P. 260
	Investigator - - -	Woolwich -	Dec. 1861	2	149	P. 34
	Pioneer - - - -	River Congo	7 June 1865	-	142	S. 34
Gun Boat - -	Handy - - - D.	Portsmouth	- - -	2	235	S. 40
Store Ship - -	Mæander - - D.	Ascension -	21 Jan. 1860	10	1,221	-
	Wye - - - P. O.	Woolwich -	6 April 1861	2	700	S. 100
Receiving Ship -	Isis - - - -	Chatham -	Feb. 1861	2	1,321	-
	Vindictive - - -	Portsmouth	24 July 1862	2	1,758	-

TABLE, No. 5.

the Total Number of Days' Sickness on Board; the Average Number of Men Sick Number discharged to Hospital.

D. Returns Defective.

Period.	Average Complements.	Average Complements corrected for Time.	Number of Cases of Disease and Injury.	Number of Days' Sickness on Board.	Average Number of Men Sick Daily for Twelve Months.	Ratio per 1,000 of Average Force of each Ship.	Number Discharged to Hospital.
Year - -	190	190	494	6,038	16·5	86·8	84
Year - -	250	250	364	3,198	8·7	34·8	38
1 Jan. to 31 Oct.	165	135	401	5,106	13·9	102·9	44
Year - -	80	80	234	3,058	8·3	103·7	5
Year - -	75	75	110	1,171	3·2	42·6	10
1 Jan. to 29 June	80	40	41	876	2·4	60·	6
Year - -	75	75	185	1,853	5·	66·6	12
17 Jan. to 31 Dec.	75	70	101	1,077	2·9	41·4	4
Year - -	80	80	186	1,960	5·3	66·2	4
1 Jan. to 15 July	65	35	98	886	2·4	68·5	1
Year - -	80	80	151	1,684	4·6	57·5	6
Year - -	75	75	131	1,832	5·	66·6	10
Year - -	65	65	142	1,710	4·6	70·7	12
Year - -	65	65	118	1,006	2·7	41·5	6
Year - -	55	55	161	1,392	3·8	69·	10
1 Apr. to 31 Dec.	60	45	145	1,462	4·	88·8	6
1 Jan. to 8 July -	70	35	106	727	1·9	54·2	2
Year - -	55	40	190	1,181	3·2	80·	3
- - -	taken with Archer.						
- - -	taken with Investigator.						
Year - -	95	95	97	793	2·1	22·1	13
1 Jan. to 31 Oct.	55	45	50	419	1·1	24 4	2
Year - -	20	20	70	798	2·1	105·	1
Year - -	50	50·	146	1,324	3·6	72·	7

TABLE, No. 6.

SHOWING the Number of CASES of all DISEASES and INJURIES

DISEASE OR INJURY.	Antelope.	Archer.	Dart.	Espoir.	Griffon.	Investigator.	Isis.	Jaseur.	Landrail.	Lee.
Continued and Remittent Fever	20	70	78	28	31	76	38	73	1	27
Yellow Fever	–	56	–	–	–	–	4	–	–	–
Small Pox	–	–	–	–	–	–	–	–	–	–
Intermittent Fever	1	5	7	–	–	32	1	–	–	3
Disease of the Brain	–	–	–	–	–	–	–	–	1	–
Apoplexy	–	–	–	–	–	–	–	–	–	–
Epilepsy	–	1	–	–	–	–	–	2	–	–
Paralysis	–	–	–	–	–	–	–	–	–	–
Insanity	1	–	–	–	–	–	–	–	–	–
Delirium Tremens	1	–	–	–	–	1	–	1	–	–
Neuralgia	1	3	–	–	–	–	–	–	–	–
Vertigo	–	–	–	–	–	–	–	–	–	–
Inflammation of the Lungs and Pleura	–	6	–	2	–	2	–	–	–	2
Phthisis and Hæmoptysis	–	3	2	2	–	–	–	–	–	–
Influenza and Catarrh	–	28	5	1	–	1	1	17	9	11
Cynanche	–	7	–	–	–	1	–	–	1	2
Asthma	–	–	–	–	–	–	–	–	2	–
Disease of the Heart, Functional and Organic	1	–	6	2	–	–	–	–	2	4
Hæmorrhoids	–	1	3	–	–	1	–	–	–	–
Varix	–	–	–	–	–	–	–	–	1	–
Inflammation of the Stomach and Bowels	–	–	–	1	–	1	–	–	–	–
Dysentery	1	1	–	–	–	11	1	1	–	1
Diarrhœa	10	31	9	4	–	4	–	2	5	4
Constipation and Colic	6	1	6	–	–	7	–	4	–	2
Inflammation of the Liver	–	–	1	–	–	–	1	–	–	–
Jaundice	–	1	–	–	–	–	–	1	–	–
Splenitis	–	–	–	–	–	1	–	–	–	–
Inflammation of the Bladder and Kidneys	–	–	–	1	–	–	–	1	–	1
Syphilis, Primary and Secondary	–	7	–	4	–	3	4	8	4	3
Gonorrhœa	–	18	–	–	–	3	1	9	–	5
Orchitis	–	2	3	1	–	–	1	4	3	2
Stricture of the Urethra	–	3	–	1	–	–	–	–	1	–
Incontinence of Urine, &c.	–	2	–	–	–	–	–	–	–	–
Rheumatism	–	11	25	2	1	9	2	12	13	6
Gout	–	–	–	–	–	–	–	–	–	–
Disease of the Bones and Joints	2	1	1	2	–	–	–	–	–	4
Inflammation of the Eyes	1	5	1	–	–	–	–	–	–	–
Amaurosis and Cataract	–	–	–	–	–	–	–	–	–	–
Otitis and Deafness	–	1	1	–	–	–	2	–	1	–
Erysipelas	–	–	–	–	–	–	–	–	–	2
Scrofula	–	–	–	–	–	–	–	–	–	–
Bubo (*Symp.*)	1	6	–	–	–	4	2	–	–	1
Phlegmon and Abscess	26	57	23	20	9	12	3	15	19	30
Ulcer	12	56	10	9	–	7	5	8	1	27
Psora	–	1	–	–	–	–	–	–	1	–
Eruptions, &c.	–	2	1	–	–	–	–	3	2	4
Dyspepsia and Debility	2	36	23	14	–	7	1	8	6	10
Headache, &c.	–	–	6	–	–	3	–	2	3	–
Dropsy	1	–	–	–	–	–	–	–	–	–
Worms	–	4	–	–	–	2	–	–	–	–
Wounds and Injuries	14	64	23	16	–	2	3	13	23	33
Burns and Scalds	–	4	–	–	–	–	–	–	1	2
Hernia	–	–	–	–	–	–	–	1	1	–
TOTAL	106	494	234	110	41	190	70	185	101	186

a Insolatio.

Table, No. 6.

in each Ship employed on the West Coast of Africa Station.

Meander.	Mullet.	Pandora.	Ranger.	Rattlesnake.	Snipe.	Sparrow.	Speedwell.	Torch.	Vindictive.	Wye.	Zebra.	Total.
1	11	74	40	52	16	14	23	32	38	6	73	822
				5								65
				4					2			6
2	1		1	10	15	8	3		8		41	138
												1
						1	a 2				1	4
		1		1	1			4			1	10
												1
			1			1						2
1			1	1					2		1	8
			2				1					7
							10	5			2	19
1	1	2		2					1		9	28
			1	1	1				1		3	14
1	3	30	4	36	14	5	7	2	1	11	20	207
		1		5		1	2		1		1	22
												3
				2	4	1			3			25
				2	3	1		2	1			14
												1
				1					1			3
7	7	3	3	31	7	6	1	1	1	2	24	175
2			3	5		5	14	3	5		9	58
				2	1	6			1		1	13
												2
												1
2	1		3	19	1		3	7	1	1	1	72
	1		11	7	2		5		3	3		68
2		1	1	2	4		1	3	2	1	1	31
			2	1					1		2	14
												2
8	5		8	30	8	6	11	10	9	6	9	196
	2						1					1
				1		1	2				1	17
1	1			3		1				1		14
			1	1								2
1						1		1			4	12
			1						1			5
2											2	2
			1	1	2		1	38	1		1	61
21	34	17	20	36	22	19	24		17	8	59	491
6	11	7	8	20	18	21	8	1	5		34	274
				5								7
				2	1		1	1	1		1	19
16	7	6	3	21	2	3	17	15	11		20	233
	2				5	1			2			24
						1	2	1				5
												6
22	9	8	16	48	14	15	21	18	25	5	74	466
1		1		6	1		1		1	1	2	20
				1				1			4	9
97	98	151	131	364	142	118	161	145	146	50	401	3,721

b Tænia.

CAPE OF GOOD HOPE AND EAST INDIES.

Cape of Good Hope and East India Station.

THE squadron on this station in 1865 consisted of twelve vessels, comprising one of the second rate; one of the fourth rate; four of the sixth rate; three sloops; two gun-vessels; and one receiving-ship, permanently stationed in Simons Bay. The mean force, corrected for time, was 1,800, and the total number of cases of disease and injury placed on the sick-list 2,891, which is in the ratio of 1606·1 per 1,000 of mean force, being a reduction, as compared with the preceding year, equal to 16·4 per 1,000. Eight of the vessels were on the station during the whole twelve months, and the returns from the remainder are for periods varying from three to nine months. Of the sea-going vessels employed on the station during the whole year, the lowest sick-rates were in the Vigilant and Rapid, the highest in the Penguin and Pantaloon.

The daily loss of service from fever was in the ratio of 4·5 per 1,000 of mean force; from diseases of the brain and nervous system, ·3; of the organs of respiration, 3·2; of the heart and blood-vessels, 1·1; of the alimentary canal, 3·6; of the liver, 1·3; of the genito-urinary organs, 8·6; from rheumatism, 4·1; diseases of the bones and joints, ·6; of the special senses, ·5; of the skin and cellular tissue, 15·8; diseases not classed, 1·6; and from wounds and injuries of various kinds, and hernia, 12·3. The total number of men daily sick was 109·8, being in the ratio 61· per 1,000 of mean force, which is 5·6 below the daily sick-rate of the preceding year.

Fever.—One hundred and ninety-six cases of primary fever were under treatment during the year; seventy-eight cases of ague; two cases of small-pox; two of measles; and four of scarlatina; of these, two cases of primary fever and one of small-pox proved fatal. The average duration of each case of primary fever was between nine and ten days; of each case of ague, fifteen days; of each case of small-pox, between ten and eleven days; of each case of measles about

between

sixteen days; and of each case of scarlatina about fifteen days.

Continued and Remittent Fevers.—There were thirty-six cases of primary fever in the Highflyer, all of which may be said to have been of an ephemeral nature. Twenty-two of these cases appear in the return for the Christmas quarter of the year, but no mention is made as to the circumstances under which they occurred.

In the Lyra there were thirty-seven cases of primary fever; four of these are classed as continued fever, each case being on an average thirty-four days under treatment; seven as remittent, with an average duration to each of twenty-five days; and twenty-six as ephemeral, the duration of each case averaging from seven to eight days. All the cases of continued fever occurred during the Michaelmas quarter of the year, when the vessel was at Bombay. The surgeon* of the ship says, with reference to them:—

"The cases of continued fever occurred in the persons of those who were employed in boat duty, the usual landing-place being the dockyard. The most severe case was that of a boy, who two days previous to his 'sickening' had been employed in cleaning the whale-boat on the slip at low water. In the immediate vicinity of this place a common town sewer empties itself, and high water alone removes the exuviæ. The stench he states to have been most offensive, and it was probably aggravated by excessive heat. The mortuary records of the town at this period show typhus fever to have been very prevalent and fatal, especially among the native population."

All the cases of remittent fever in this vessel occurred in the Lady quarter, when the ship was employed in the Mozambique Channel, and the following observations are made in reference to them:—

"The Lyra sailed from Quiloa on the 28th of January. On the 30th the boats rejoined the ship off the river Rovumna, all well. On the 2nd of February we anchored at Port Mozambique. During our stay there several cases of remittent fever were placed on the sick-list. The first case occurred in the person of an officer who had neither landed at Quiloa nor Mozambique. He had been ailing a few days before our arrival at the latter port, and it was not for several days after his admission to the sick-list that the fever assumed the remittent type. On the following day one of the stewards was placed on the sick-list with febrile symptoms of no definite type, save that it resembled the onset of common continued fever. These cases occurring in people who all slept in one part of the ship, and

* Surgeon Robert Edwardes.

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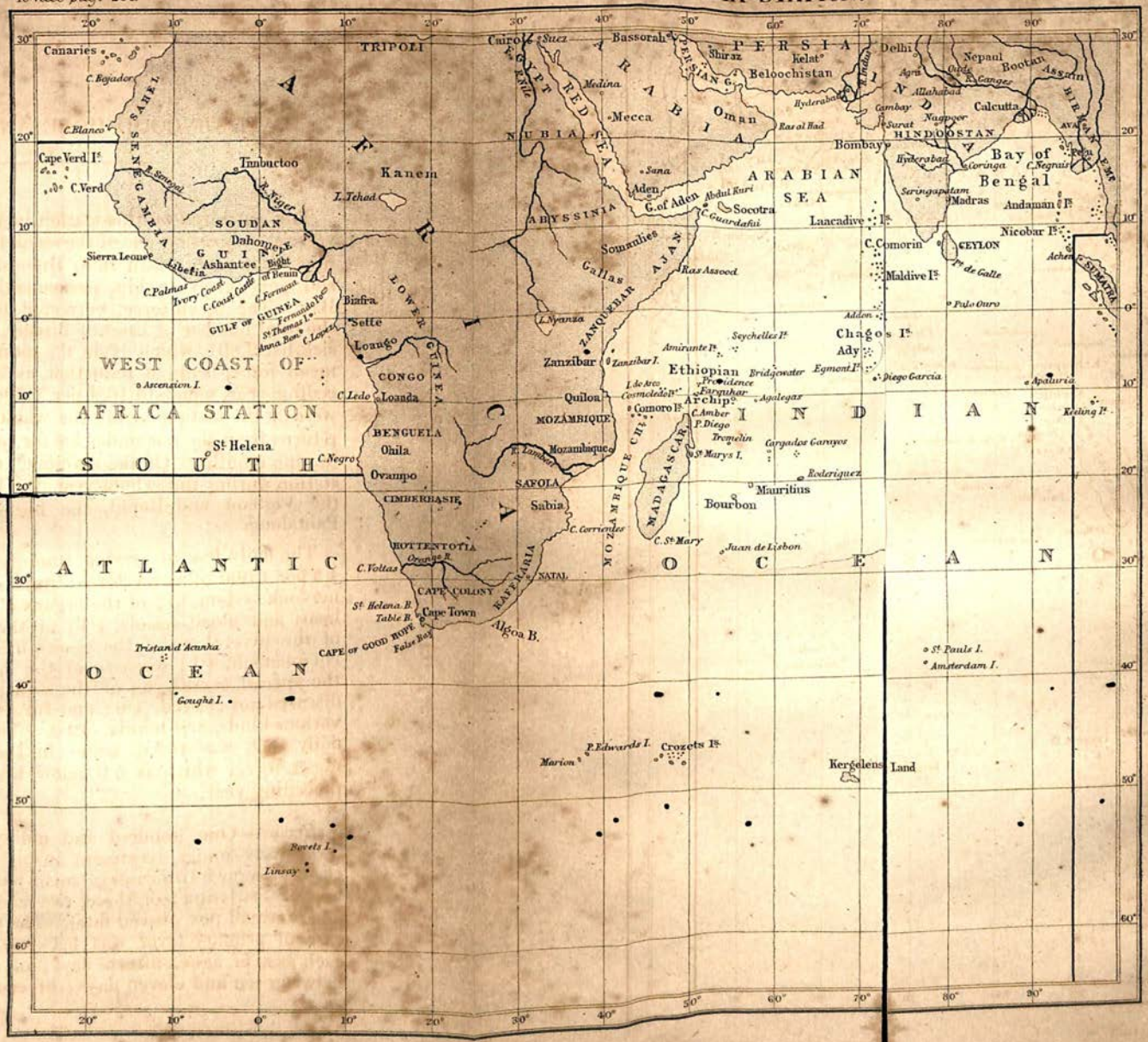
CAPE OF GOOD HOPE AND EAST INDIA STATION.



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and two of them belonging to the engineer department, suggested to me that they might have arisen from some cause in the ship itself. The next case which occurred (February 7th) soon showed its remittent character. The man had been ashore daily at Quiloa to kill bullocks for the ship, and also had frequent communication with the town of Mozambique. On the same day an officer fell sick. Thirteen days previously he had ascended the Kissivara river on detached boat service. On that occasion quinine was given daily, both during their absence from the ship, and on their return. This officer had also frequently landed at Mozambique. On the 8th of February two other cases of remittent fever were admitted, one in the person of an officer who had been ashore in the town both by day and night, the other in a seaman who had not left the ship. The Lyra now left Mozambique for the southward. On the following day, the 9th of February, a sixth case broke out in a seaman who two days previously had been one of a seining party with the boats of another ship, and without proper protection had been exposed for nearly eighteen hours on a malarious coast and an offensive beach. His case was one of the most severe that occurred, and at times he was in a most critical condition, the period of collapse invariably demanding the free use of stimulants: he finally recovered, however. The last case occurred on the 10th of February, and calls for no particular notice. There were thus seven cases of remittent fever which were contracted, either at Quiloa (a harbour at all times notoriously unhealthy) or at Port Mozambique. I omit Quibindo Reef, where we were aground upwards of twenty-four hours, as, although we were only a few hundred feet from the shore, we were well to windward of it, with a strong north-easterly wind blowing at the time. During the time that this febrile irruption first showed itself other cases occurred, but they were of an ephemeral nature. At times they showed a disposition to periodicity, but it was of too vague a type to warrant their being classed otherwise than as 'ephemera.' A similar mild variety of fever often follows solar exposure on the east coast of Africa. This form of fever appears to be the one encountered by the Livingstone Expedition in Zambesi, as recorded by the Surgeon-naturalist, which he states to have been 'remittent, or bilious remittent, occasionally but rarely intermittent.' The paroxysms assumed all kinds of irregularities; all hot or all cold stage for eighteen or twenty-four hours; or chills for that period; or no cold stage, or a scarcely perceptible one; but in all cases going on to establish itself as remittent fever. Headache was the most common accompaniment, first to come and last to go; and vomiting, sometimes most intractable and always distressing, was next most frequent, and invariably protracted the case by impeding the treatment.

"The Lyra sailed from Mozambique on the 8th, and anchored off the river Antonio the same evening. On the following day the gig, whaleboat, and pinnace ascended the river. As usual they were supplied with the established allowance of quinine. They remained in the river all night, anchored off mud-banks on which grew tropical vegetation in all its luxuriance, while four miles nearer the mouth of the river the banks were sandy, higher, and the

the place more salubrious, with the advantage of a sea-breeze. The boats returned to the ship on the evening of the 10th; no ill results followed, probably from large doses of quinine having been given, although the surgeon to the Zambesi Expedition states 'that quinine will not avert fever, though taken in large or small doses, and with the greatest regularity.' The number of cases of remittent fever which have fallen under my notice on the east coast of Africa have been few, first, owing to the few men on board; and secondly, as I believe, to quinine having been regularly administered. I cannot call to memory a single case where remittent fever occurred in the boats' crews sent on detached service, where quinine had been given,—the boats' crews are of course exposed to malarious influences more than those on board, absent, as they often are, from the ship for days and weeks, and exposed to depressing influences, such as wet and the cold damp air of night; ascending tidal streams and examining creeks, which can be avoided to some extent on board ship,—and I myself can testify to its averting a threatened attack in my own person."

In the Orestes there were fourteen cases of primary fever, five of which are classed as remittent, and nine as ephemeral. All the cases of remittent fever are referable to exposure at Zanzibar. A case of fever, classed as intermittent, proved fatal at the hospital of Simons Town, in the person of an officer's servant of this ship. More correctly it came under the category of remittent fever, being a well-marked example of that form of cachexia which is so common in malarial countries. In the first stage of his illness the disease was decidedly intermittent, but as it progressed the symptoms became of a persistent character, and were complicated with enteric symptoms of a somewhat severe nature. He refused all food, but drank freely; the bowels were frequently moved, but he complained that the evacuations gave no relief to the abdominal pain, which extended from the right iliac fossa to the epigastrium. He became rapidly debilitated, and was evidently sinking when the ship arrived at Simons Bay, where he was at once sent to hospital. On his arrival there he had an accession of fever and died at midnight. On post-mortem examination of the body the spleen was found enlarged, gorged, and soft; the liver was enlarged, dark, and friable, and the stomach contained fluid of grass green colour, and highly unpleasant strong acid odour.

The only case of primary fever in the Penguin was one of febricula, which was four days under treatment.

There were forty cases of primary fever in the Princess Royal, but of these thirty-nine were ephemeral, the average duration of each case being between six and seven days. All

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these cases occurred during the Lady quarter of the year, when the vessel was stationed at Bombay. The only severe case was one of enteric fever, characterised by the specific eruption, diarrhœa, and tenderness in the right iliac region. He was sent to the General Hospital at Bombay, where he recovered.

There were sixteen cases of primary fever in the Rapid, almost all of a purely ephemeral nature, and none presenting any features of a noteworthy character.

There were forty-two cases of primary fever in the Severn, but few of them presented any points of interest. The majority occurred during the Michaelmas quarter of the year, and are thus referred to by the surgeon* of the ship:—

"· · · · · · the greater part of them occurring in the latter part of the month of July, and in the month of August, the time of the year in which fevers generally prevail in Trincomalee,—the detachment of the 25th regiment in garrison here suffering equally, and at the same time as the ship, from this cause. The major part of the cases of fever were entered as remittent, the disease more nearly approaching that type than any other, but many of them were of an ephemeral nature, and required but little treatment. Three cases in which the disease was complicated with hepatic derangement were sent to hospital for convenience of treatment."

There were eight cases of primary fever in the Vigilant, and one in the Wasp. In the former vessel the disease appears to have been of an ephemeral character, the average duration of each case being only about seven days; but in the Wasp the case under treatment was eighty-four days on the sick-list. In this instance the disease appears to have been most intractable, and to have been attended with head symptoms of an exceptionally severe character. The patient, a seaman, aged twenty-three, was placed on the sick-list on the 3rd of August, with what is termed continued fever. Under the treatment to which he was subjected he made a slow recovery, and was discharged to duty on the 19th of September. On the evening of that day, after exercising sails on deck (the vessel being then in the Mozambique Channel) he complained of headache and went below to his mess, where he became unconscious at 7 p.m. "At first," the surgeon† says "the fit had something of the appearance of hysteria." Coma, however, supervened, and by 9 o'clock he was in a state of profound stupor. The pulse was weak and slow,

* Surgeon Henry Loney. † Surgeon W. E. O'Brien.

slow, the pupils dilated, and the eyes motionless and unaffected by light.

"His head was now shaved; cupping-glasses were applied above the ears and on the temples, and shifted about wherever they could be placed, for half-an-hour. Half a drachm of chloroform, mixed with one drachm of spirits of wine, was applied to the scalp on a piece of flannel, over which a folded wet towel was placed. In the course of a minute or so he made endeavours to remove the application from his head; in a few minutes more he began to complain bitterly of the pain, and made violent attempts to remove the cloth. I may remark here, that so far as my experience goes, there is no other counter-irritant at all equal to chloroform applied in this way, where the object is to produce a quick impression. The pain is intense while the application lasts; when it is removed, the pain ceases, leaving little or no trace behind. After the removal of the chloroform he sank into a passive state. The cupping-glasses and choloroform were again applied, and with the same results. These applications were repeated at short intervals until the coma passed off, and he answered questions rationally, which took place in an hour after first applying them. Twenty grains of quinine and ten of calomel were prescribed, and a turpentine enema administered."

He was sensible during the night, but on the following morning relapsed into a comatose state, which was nearly complete by 11 a.m. The cupping-glasses and chloroform were again had recourse to, with the same happy results, and nourishment and stimulants given him. He continued progressing favourably until the 2nd of October, when he had a severe febrile accession in the evening, and a recurrence of head symptoms similar to those which occurred on his first being placed on the sick-list. He was treated, as before, by dry-cupping the scalp, and stimulating it with the chloroform application, and with the same results. The comatose condition lasted about an hour. Twenty-five grains of quinine were given him at once. He continued after this date to be subject to frequent accessions of fever, with very violent head symptoms, and was in that condition discharged to the Naval Hospital at Trincomalee, from whence he was ultimately invalided. The note of the medical officer on this case is as follows:—

"From the post-mortem appearances that I have witnessed in persons dying of malarious fever, I had come to the conclusion, years ago, that when death took place by way of coma, the latter was due to the accumulation of serosity within the brain; that there was nothing inflammatory, or of an active nature, connected with the effusion; it either resulted from great relaxation of the capillaries, or from cessation of the absorbent powers of the veins. I had been long looking for a case to try the effects of dry cupping as a physical

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expedient to renew or increase, as the case might be, the absorbent powers of the veins, and the result in this case has fully answered the expectations I formed."

Whatever view may be entertained of the pathological conditions which induced the coma in this case, or the beneficial influence of the remedies employed to combat it, there can be little doubt that the general symptoms under which the man laboured were either due to direct insolation on the evening of his discharge from the sick-list, when he was engaged in sail drill, or to a cause operating in the same manner and having the same effect. The periodicity of the head symptoms was in all probability dependent on the impression made upon the system by the malarial poison which induced his first febrile attack, and it is in this way that inflammatory or pseudo-inflammatory diseases frequently assume a periodic character in malarious districts.

Intermittent Fever.—Seventy-eight cases of intermittent fever occurred during the year, of which nearly one-half appear on the returns from the Pantaloon. Of ten cases that occurred during the Christmas quarter of the year, the medical officer* says :—

"Ten cases of intermittent fever were added during the quarter just ended. The disease was originally contracted at the Island of Johanna, in the Mozambique Channel, where the ship was cruising about five months ago. A number of the men who then walked across the island, and remained all night exposed to the wet and cold, soon afterwards suffered an attack of fever of an intermittent character. Most of those affected recovered without any subsequent attack, but a few of them have suffered from repeated returns of the disease, at intervals varying from a week to three or four weeks. Although the patient makes a pretty rapid recovery from each succeeding attack, it is exceedingly difficult to effect a permanent cure; and this is the general character of Johanna fever, given by those who have had extensive experience of it.

"The fever is of a well-marked intermittent type, and of the quotidian variety. The paroxysm generally comes on about 4 p.m., with a feeling of lassitude and languor, dull headache, and pains in the limbs, these symptoms being followed by well-marked rigors; the pulse is small and weak; the cold stage lasts from one to two and a-half hours, and is succeeded by great heat and dryness of skin, suffusion of face, and a full bounding pulse. This stage, after continuing for several hours, gradually merges into the sweating stage, which is succeeded by an entire cessation of all the febrile

* Acting Surgeon George Maclean.

febrile symptoms. The treatment I have usually adopted, is to give a purgative at the commencement of the attack, followed by cooling saline draughts during the hot stage. During the intermission I am in the habit of giving small doses of the sulphate of quinine frequently repeated, and a large dose (ten grains) an hour or an hour-and-a-half before the paroxysm is expected; by this treatment the accession of the paroxysm is deferred to a later hour every day, until it ultimately ceases altogether. To prevent a recurrence of the disease, the patient is allowed good nourishing diet, and two or three ounces of wine daily, for a few days; general tonics are given at the same time."

Small-pox.—There was a single case of small-pox in the Vigilant. The boats of this vessel had captured a slave dhow, and the slaves were taken on board the ship for a passage to the Seychelles Islands. On the 8th of October, the day after sailing for Zanzibar, one of the slave children was found to have small-pox in the discrete form. He was immediately separated from the rest of the slaves, and from the ship's company, as far as possible, and was convalescent when the vessel arrived at Seychelles on the 20th of October, no other case having occurred in the meanwhile. The ship was placed in quarantine, and the slaves were landed on an uninhabited island, about four miles from Mahé. On the 25th of October the vessel left Seychelles for Zanzibar, and on the 4th of November a marine who had been one of the sentries over the slaves, presented himself with modified small-pox. He had felt unwell on the 2nd; he was carefully isolated from the rest of the ship's company, and the disease did not spread. The man had a good vaccination mark.

In the Wasp, also, there was a single case of small-pox, which had, however, a fatal termination. It occurred in the person of a krooman, who bore no traces of vaccination, and who appears to have contracted the disease at Zanzibar, where it was very prevalent on shore. He was as carefully as possible isolated from the ship's company by being placed abaft the mizen-mast, where his attendants were also confined during his illness; and, after his death, his clothes and bedding were thrown overboard. The surgeon of the ship says that all the vaccine virus that arrives from England by the Red Sea appears to be spoiled by the heat, although put up with great care; and he suggested to the mission at Zanzibar that, in passing through the Red Sea, it should be kept in the ice-room of the steam-packets.

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Scarlatina.—The only vessel in which this dangerous form of fever appeared was the Valorous, in which there were four cases. The disease appears to have been contracted at the Cape of Good Hope, where it was prevalent on shore. Immediately on the eruption becoming developed in the first person affected, he was discharged to hospital on the 6th of December. No other case occurred until the 21st of the same month, the ship being then at sea, five days from the Cape, when three men presented themselves with febrile symptoms, which proved to be premonitory of the disease; they were at once isolated from the ship's company, by being screened off abaft the mizen-mast; and the disease did not spread. All the cases made good recoveries.

Measles.—Two cases of this exanthem appear in the returns from the Wasp. They occurred in the Midsummer quarter of the year, when the vessel was employed in the Mozambique Channel; but no information whatever is given in connection with them.

Diseases of the Brain and Nervous System.—There is a considerable increase in the ratio of cases coming under this head, as compared with the preceding year. This arises almost altogether from the greater prevalence of various forms of neuralgic affections.

A fatal case of what was considered ramollissement of the brain occurred in the Highflyer. The subject of it, a marine, had been previously under treatment for rheumatic symptoms, from which, however, he had recovered, and was discharged to duty. On the 13th of May he again presented himself, complaining of severe headache, accompanied with much depression. He had an unusually foul tongue, and other symptoms of gastric derangement, with a full labouring pulse. For these symptoms he was cupped at the nape of the neck, and about eight ounces of blood abstracted. Drastic purgatives, with gentle diuretics, were also administered. The treatment was followed by temporary beneficial results, inasmuch as the head symptoms decreased, the tongue became cleaner, and the pulse less frequent and smaller. On the 1st of June, symptoms of a relapse began to show themselves by loss of memory and intermittent insensibility, accompanied by a stammering pronunciation. From this state he never rallied; sleeping a great deal, and being with difficulty roused up, and having

having apparently lost all command over the sphincters. He lost flesh very rapidly, and was ultimately reduced almost to a skeleton. The bowels were generally obstinately constipated, and required for their action the use of enemata. In this condition he continued until the 29th of June, when he had an epileptic seizure, from the effects of which he did not recover, but died the same day. No post-mortem examination of the body was made, but the surgeon* says:—

"From a careful consideration of the case, I have arrived at the conclusion that he suffered, at least latterly, from anæmic softening of the brain, together with atrophy of the system generally."

There was three deaths from apoplexy. One of these occurred in the person of a marine of the Highflyer, who was under treatment at the time for bronchitis. He was convalescent, and able to sit up in bed for an hour daily. He was stout in person, of a florid complexion, with a large head, short neck, prominent eyes, husky voice, in fact of an apoplectic habit of body. On the day of his death he had felt better than usual, but was suddenly seized with severe convulsions, which lasted for nearly twenty minutes, during which his head and neck swelled visibly. Despite the energetic treatment to which he was subjected, he never regained consciousness, but sank comatose two hours after his first seizure. No post-mortem examination of the body appears to have been made.

In the Pantaloon there was a fatal case of what was considered serous apoplexy. It occurred in the person of a seaman who had for some days complained of headache, from which, however, he appeared to be recovering, when he was found lying on the lower deck in a state of insensibility, from which he never recovered. The breathing was slow, laborious, and accompanied with stertor; the pulse weak and slow; the pupils slightly dilated, and insensible to light. The bowels had been involuntarily evacuated. He died a few hours after being discovered in this condition, and death was attributed to the sudden effusion of serum on the brain. No post-mortem examination of the body appears to have been made.

A seaman of the Severn was found on the evening of the 29th of September lying in the road in the native town

* Surgeon W. H. Cameron.

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town of Trincomalee in a dying state. He was taken to the police station-house, but died immediately on his arrival there. On post-mortem examination of the body, it was found that he had died from apoplexy, induced by excessive drinking of arrack. The blood-vessels of the brain and its membranes were tinged and distended with blood, the ventricles filled with serum, and in the stomach was found a quantity of spirit. The other organs were healthy.

Delirium Tremens.—Five cases of this disease were under treatment in the squadron; of these one occurred in a petty officer, one in an able seaman, and three in marines.

Diseases of the Organs of Respiration.—There was a slight increase in the ratio of cases coming under this head as compared with the preceding year; but there was a great reduction in the rate of invaliding, and no mortality was occasioned by them. The increase in the ratio of cases was altogether dependent on the greater prevalence of influenza and catarrh.

Diseases of the Heart and Blood-vessels.—There is a trifling reduction in the ratio of cases under this head compared with the preceding year, and there is a considerable reduction in the death-rate. The ratio of invaliding, however, is precisely the same. Twenty-one cases of functional or organic disease of the heart were under treatment, of which eight were invalided, and one proved fatal. The fatal case occurred in the person of a seaman of the Rapid, who, for some time previous to his being placed on the sick-list, had been observed to be of a pale, sallow, bloodless appearance; but as he invariably stated, in reply to any questions put to him, that he had no complaint to make, no examination was made of him, and he went on performing his duty. He at length came on the sick-list on the 11th of November 1864, suffering from severe cold, with tightness of the chest and great difficulty of breathing; under the treatment to which he was subjected he recovered from this condition, and no examination was made of his chest at this time. On the 8th of December he again presented himself with a very troublesome cough, dyspnœa, amounting almost to orthopnœa, constrictive pain across the chest, total loss of appetite, and occasional sickness of stomach. The countenance was very anxious, the lips a livid blue, and he stated that the slightest exertion now undergone caused a feeling of faintness. Examination of the chest

chest detected dulness in percussion over the whole of the right lung, with bronchitic râles near the apex, and crepitation at the base. The heart was found to be enormously enlarged; dulness on percussion over that organ, extending about half an inch beyond the natural limits, all round; its action was tumultuous, and a loud murmur followed the second sound. The murmur was heard most distinctly at the base of the heart, and it followed the course of the arteries; thus indicating disease of the aortic valves. He also complained of pain and fulness in the hypochondriac region, and the liver appeared to be tender on pressure, and to extend into the epigastric region more than natural.

Despite the treatment to which he was subjected he rapidly got worse. Dropsical effusion took place into the lower extremities, and the breathing got more difficult daily, until latterly it amounted to constant orthopnœa. The stomach rejected everything swallowed. He became delirious on the night of the 13th of January, and died on the following day. The following report of the post-mortem examination of the body is by the surgeon* of the ship, from whose detailed history of the case the above abridgment is made.

"On opening the chest, and cutting into the pericardium, the heart was found enormously enlarged, being as nearly as possible double its natural size. Its colour was pale and bloodless looking, and when handled it imparted a feeling of flabbiness. On cutting into the left ventricle its cavity was found much enlarged, dilated, and its walls pale, flabby, and thinner than natural. On laying open the aorta, one of the semilunar valves was also found much enlarged, and a uvula-shaped fatty tumour, of a little over an inch in length, projecting from the corpus aurantii, flattened before and behind, and feeling to the touch as if composed of a series of small rounded nodules of fat, surrounded by a proper lining membrane. This tumour had evidently commenced in the corpus aurantii between the two folds of the lining membrane. Slight thickening of the mitral valves was also found. No disease of any part of the lungs could be detected, notwithstanding the evidences of disease that were so marked during life. The liver was slightly enlarged, but quite healthy-looking, and the other abdominal organs were healthy."

There was a fatal case of aneurism in the Highflyer. The subject of it, a stoker, had once or twice previously been on the sick-list for palpitation and hæmoptysis, so that disease of the heart was suspected. When the fatal seizure occurred he was

* Surgeon Donald G. Pendrith.

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was under treatment for ague. He appeared to be in his usual health, and was about to be discharged to duty when death suddenly took place. On post-mortem examination of the body, the right lung, and the upper part of the left, were found to be gorged with venous blood, the remainder being in a state of hepatization. The pericardium was full and bulging, and on being slit open was found to be distended with blood in a semi-coagulated state. This was found to have proceeded from a rupture of the aorta, about an inch and a half from its origin, where a small aneurismal dilatation existed of about the size of a walnut; a little higher up four others of a similar character were discovered. The heart was collapsed and somewhat flabby, a slightly abnormal, but appreciable, dilatation of the mitral orifice being the only irregularity observed about it.

Diseases of the Alimentary Canal.—There is a slight increase in the ratio of cases coming under this head as compared with the preceding year. The invaliding rate is, however, much lower. The ratio of mortality is much increased, consequent upon the occurrence of cases of cholera in some of the vessels. Dysentery was much less prevalent than in 1864, and only one death resulted from it.

The only point of interest in connection with the cases of dysentery occurring in the squadron, has reference to a slight outbreak in the Wasp, where the disease appears to have been introduced by a cargo of captured slaves. Remarking on the passage made from the Mozambique Channel to the Seychelles Islands, the surgeon of the vessel says:—

"Two very severe cases of dysentery were put on the sick-list during the passage, and some cases of severe diarrhœa occurred after arriving at Seychelles.

"One of the dysenteric patients attributed the attack to the effluvia arising from the slaves, which he found very oppressive, and stated that the same thing had occurred to him before in a ship carrying coolies in China. The occurrence of these cases of dysentery and diarrhœa favours the opinion that one species of dysentery arises entirely from the system becoming poisoned with animal effluvia, when much concentrated by the crowding together of human beings, even in the open air. The slaves were on board ten days, kept on deck, made to wash every morning, and every other legitimate precaution to ensure cleanliness enforced. Three of the slave children died on board of dysentery; they appeared to have had it a long time, were greatly emaciated, and were kept apart from the rest of the slaves, who were a remarkably fat and healthy set of people, having been

been stolen from their owners at Zanzibar only a few days previously. Nothing approaching dysentery had appeared on board for several months, and for a week after landing the slaves at Seychelles no case of dysentery or diarrhœa occurred. Those, however, who were attacked with dysentery and diarrhœa afterwards, were those whose duties constantly brought and kept them among the slaves, viz., ship's corporals, boatswain's mates, and corporals of the watch on deck.

"The dysenteric attacks were as violent as I have ever witnessed. The men were treated by the free use of potassa; tartrate of soda; tartrate of antimony; calomel and morphia. The treatment was eminently successful in curing the patients, and instructive as to the proper treatment and pathology of dysentery."

Cholera.—There were six cases of cholera in the Highflyer, of which three proved fatal. The disease made its appearance at Calcutta, where the vessel had been lying for upwards of a month. It would appear to have been prevalent on shore at the time. The first case appeared in the person of a petty officer, who was seized on the 10th of November at 1.45 p.m. He had been on shore on the evening of the 9th, and had partaken of some liver in a doubtful state of freshness; cucumber was eaten with it. About 4 a.m. of the 10th he felt some twitchings about the abdomen, accompanied by nausea and vomiting, but did not consider himself sufficiently ill to apply for medical assistance till the afternoon of the same day, when he was found to be perfectly sensible, but complaining of great cold; the dejections were serous and inodorous, and the vomited matter of the same nature. He sank in a state of extreme collapse on the 14th. The next fatal case was that of a seaman, who was also seized on the 10th at 8 p.m., and died on the 16th. He had not been out of the ship, had eaten nothing more than his ordinary ship diet, and did not belong to the same mess with the previous man. The third fatal case occurred in the person of a petty officer, who was seized on the 14th, and died on the following day. He appears to have been complaining on the 13th. He was on shore, however, on that day, and was present at a dinner given by the Governor General to the men of the ship, which, however, he said he had no relish for. After the dinner, instead of coming off to the ship, he remained on shore. Next morning he presented all the symptoms of Asiatic cholera. The three men who escaped had been the nurses of the men who died, and the medical officer* thinks

* Acting Surgeon D. A. G. Robertson.

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thinks that "they had not adopted the precautions, nor taken the measures of which I had given them notice; in all likelihood eating with unwashed hands, and fingering in too careless a manner the linen previously soiled with the alvine evacuations." Fortunately the ship left the river, and proceeded to sea on the 16th (on which day the three cases that did not prove fatal were placed on the sick-list, as well as two others labouring under similar symptoms, but which have not been classed as cholera), and the disease did not spread.

In the Penguin there were two cases of cholera, both of which proved fatal. The introduction of the disease into the ship is thus reported by the medical officer* :—

From the 3rd of March (the date on which the Penguin sailed from Zanzibar) to the 13th of June, the vessel was employed cruizing off the east coast of Africa, and in the Gulf of Aden, endeavouring to intercept slave dhows running north with the south-west monsoon. Two full slavers were taken, one on the 15th of April, and another on the 12th of May; the former contained 127, and the latter 160 slaves. While conveying them to Aden, a considerable number died, all suffering from the same symptoms. They all complained of severe griping pains in the bowels, accompanied with vomiting, and in most cases violent purging, the stools being watery, and of a yellowish colour. The surface of the body rapidly became cold and clammy, the features pinched, and the countenance expressive of great suffering, the pulse being very small and weak. All suffered from insatiable thirst. Most of those attacked by the disease died very rapidly, many being only a few hours ill. Death seemed to result in all cases from simple exhaustion of the vital powers. The disease was in all probability generated by the filthy state in which they were necessarily kept in the slave dhows, and by the use of unwholesome food and water. No treatment seemed to have much effect on the disease; but the use of stimulants with opium was attended with better results than any other plan of treatment. . . . Two fatal cases occurred amongst the ship's company during the cruize to the northward; one, a krooman, died on the 17th of April; the other, a stoker, on the 16th of May. In both cases the general symptoms were precisely similar to those of epidemic cholera. In both there was extreme looseness of the bowels, with vomiting; the surface of the body cold, features livid and shrunken, and the pulse almost imperceptible from an early stage of the disease. There were also violent cramps of the abdomen and lower extremities. Both cases proved rapidly fatal, the first terminating in twenty, and the second in eight, hours. The patients did not complain of any previous illness. The similarity of the symptoms to those of the disease which proved so fatal among the slaves would appear to favour the opinion, that whatever its true nature may have

* Assistant Surgeon George Maclean.

have been, it was infectious. No other cases occurred among the ship's company."

There were three cases of cholera in the Princess Royal. They occurred at Bombay during the Lady quarter of the year, when the disease was prevailing extensively both on shore and afloat. Little or no information is given in connection with these cases, other than that the one that proved fatal occurred in a man of advanced years for a seaman (50), and that he died on the fifth day of the disease. These cases occurred, the first on the 6th of February; the second on the 7th; and the third and fatal case on the 9th. They were all at once removed to the Civil Hospital on shore.

Diseases of the Liver.—The ratio of cases coming under this head was more than double that of the preceding year, and the same may almost be said of the invaliding rate. There was no mortality, however, from these diseases. The majority of the cases were of a chronic character.

Diseases of the Genito-Urinary Organs.—The increase in the ratio of cases of syphilitic disease on this station, referred to in the Statistical Reports of the Health of the Navy for 1863 and 1864, continues steadily to progress. As observed in the latter Report, the ratio of cases of syphilis in 1861 was 47·3 per 1000; in 1862, 52·5; in 1863, 60; and in 1864, 63·7; in the present year it is 65·5.

The surgeon* of the Valorous, in which vessel the largest number of cases of venereal disease occurred, says with reference to them: —

"The large number of cases of venereal disease will be noticed. The ship was anchored in Simon's Bay during nearly the whole year, and that place has become of late a perfect hotbed for venereal complaints, no sanitary measures being adopted to restrain infected prostitutes from perambulating the town day and night."

In the Seringapatam, permanently stationed in Simons' Bay, there was also a large amount of syphilitic disease. Syphilis is said to have been observed to increase in prevalence about the middle of March, but no cause is assigned to account for this circumstance. Most of the primary sores were small, and of a mixed character, often accompanied with

* Surgeon John Murphy.

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with discharge from the urethra, and very protracted. The gonorrhœa was very obstinate to treat, nearly all cases terminating in gleet.

The surgeon of the Rapid remarks :—

"Syphilis is everywhere present on the east coast of Africa, but as leave is only given at Seychelles or Mauritius, the disease is not nearly so prevalent as it would be if leave were given on any part of the mainland of Africa, or at Zanzibar. I have no means of ascertaining whether the disease is more prevalent among the crews of vessels who have leave at Zanzibar, Mozambique, &c., and in this ship there is no means of arriving at a knowledge of the comparative frequency of the disease at the different ports of call in East Africa, for our ship's company have had no leave on the mainland; but I am informed that the disease is exceedingly common in Zanzibar, and on the mainland; and that it is so at Seychelles we have had ample proof. Immorality prevails there to such an extent that a virtuous character is decidedly exceptional, and where that is the case disease must surely prevail; that disease whose influence is so powerful and extensive in destroying health, and bringing on a condition of physical degeneration that places the constitution in the most favourable position for developing disease in any form."

The possible influence of leprosy on venereal diseases is suggested by the surgeon of the Wasp. Referring to the Seychelles Islands, he says:—

"Leprosy of an inveterate nature, among the natives, is the disease of the place. The severe cases are kept isolated on an island by themselves.

"Three of the men belonging to the Wasp contracted gonorrhœa at Seychelles. This was followed by foul ulcers on the scrotum and other places. One man lost the nails off four of his fingers by onychia maligna; he had also a large deposit of purulent matter among the glutei muscles. A second lost the nail off one finger, and had deep ulceration between some of his toes. The third had large spreading ulcers, with elevated granular edges, between the cleft of the nates. They all got well under the use of alterative doses of mercury, iodide of potass, and arsenical solution. The undiluted solution of chloride of zinc was applied to the various ulcers, which possessed little or no sensibility. It is an open question whether the gonorrhœal matter might not have imported some of the leprous character with it, if contracted from a person of that habit of body."

Rheumatism.—There is a considerable reduction in the ratio of cases coming under this head as compared with the preceding year, a fact which does not interfere with the observations made in previous reports on this station, that a relation has been remarked between the prevalence of rheumatism

matism and periodic fevers. In the present year, with a lower rate of rheumatic cases, there is a higher ratio of continued and remittent fevers; but if reference be made to the character of those fevers, it will be found that the greater proportion of them were of a mild and ephemeral nature, and not due to malarious influences. Barely one-fifth of the cases, in fact, were examples of remittent fever.

Wounds and Injuries.—A man was killed by falling from a verandah on shore, a height of about twenty-six feet. He had been drinking freely, and there is some reason to suppose that he may have had a sunstroke, as he is reported to have had a fit whilst sitting on the railing of the verandah. The immediate cause of death was rupture of the aorta. A petty officer sustained a compound and comminuted fracture of the thigh by falling from aloft, which terminated fatally, gangrene having supervened. A man died from the effects of a spear wound sustained in action; and a boy sustained fatal fracture of the skull by falling from aloft.

Five men were drowned. Of these one fell overboard from a boat, and one fell overboard in a fit. One was capsized in a canoe; one was drowned in attempting to swim off to his ship; and one was found drowned. The total number of deaths was twenty-seven, being in the ratio of 15·0 per 1,000 of mean force, which is a reduction, compared with the preceding year, equal to 4·4, per 1,000. The ratio of mortality from disease alone was 9·4 per 1,000; in 1864 it was 13·8.

Invalided.—Three persons were invalided for the sequelæ of fever; four, for the diseases of the brain and nervous system; six, for diseases of the respiratory organs; eight, for diseases of the heart and bloodvessels; one, for dysentery; five, for diseases of the liver; five, for the diseases of the genito-urinary organs; six, for rheumatism; two, for diseases of the bones and joints; two, for diseases of the special senses; four, for diseases of the skin and cellular tissue; two, for dyspepsia and debility; six, for wounds and injuries of various kinds; and seven, for hernia; making the total number invalided sixty-one; which is in the ratio of 33·8 per 1,000 of mean force, being a decrease as compared with the preceding year, equal to 19·6 per 1,000.

TABLE, No. 1.

SHOWING the Number of CASES of all DISEASES and INJURIES, and the Number INVALIDED and DEAD, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Continued and Remittent Fever	196	108·8	3	1·6	2	1·1
Intermittent Fever	78	43·3	—	—	—	—
Small Pox	2	1·1	-	-	1	·5
Measles	2	1·1	—	—	—	—
Scarlatina	4	2·2	—	—	—	—
Disease of the Brain	1	·5	-	-	1	·5
Apoplexy	5	2·7	1	·5	3	1·6
Epilepsy	6	3·3	2	1·1	—	—
Paralysis	-	-	1	·5	—	—
Insanity	1	·5	—	—	—	—
Delirium Tremens	5	2·7	—	—	—	—
Neuralgia	14	7·7	—	—	—	—
Vertigo	4	2·2	—	—	—	—
Inflammation of the Lungs and Pleura	10	5·5	2	1·1	—	—
Phthisis and Hæmoptysis	7	3·8	4	2·2	—	—
Influenza and Catarrh	278	154·4	—	—	—	—
Cynanche	24	13·3	—	—	—	—
Asthma	1	·5	—	—	—	—
Disease of the Heart, Functional and Organic	21	11·6	8	4·4	1	·5
Hæmorrhoids	4	2·2	—	—	—	—
Varix	2	1·1	—	—	—	—
Aneurism	1	·5	-	-	1	·5
Disease of the Stomach and Bowels	4	2·2	—	—	—	—
Dysentery	28	15·5	1	·5	1	·5
Diarrhœa	227	126·1	—	—	—	—
Cholera	11	6·1	-	-	6	3·3
Constipation and Colic	56	31·1	—	—	—	—
Disease of the Liver	23	12·7	5	2·7	—	—
Jaundice	3	1·6	—	—	—	—
Splenitis	1	·5	—	—	—	—

TABLE, No. 1.—Showing the Number of Cases of all Diseases, &c.—*continued.*

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	3	1·6	—	—	—	—
Syphilis	118	65·5	2	1·1	—	—
Gonorrhœa	43	23·8	—	—	—	—
Orchitis	26	14·4	2	1·1	—	—
Stricture	12	6·6	1	·5	—	—
Incontinence of Urine, &c.	2	1·1	—	—	—	—
Rheumatism	151	83·8	6	3·3	1	·5
Disease of the Bones and Joints	22	12·2	2	1·1	—	—
Inflammation of the Eyes	10	5·5	—	—	—	—
Amaurosis and Cataract	—	—	1	·5	—	—
Otitis and Deafness	1	·5	1	·5	—	—
Erysipelas	4	2·2	—	—	—	—
Scrofula	1	·5	1	·5	—	—
Bubo (*Symp.*)	34	18·8	—	—	—	—
Phlegmon and Abscess	438	243·3	1	·5	—	—
Ulcer	216	120·	2	1·1	—	—
Psora	4	2·2	—	—	—	—
Eruptions, &c.	10	5·5	—	—	—	—
Dyspepsia and Debility	114	63·3	2	1·1	—	—
Scurvy	6	3·3	—	—	—	—
Dropsy	4	2·2	—	—	—	—
Worms	4	2·2	—	—	—	—
Headache	6	3·3	—	—	—	—
Wounds and Injuries	601	333·8	6	3·3	5	2·7
Burns and Scalds	33	18·3	—	—	—	—
Hernia	9	5·	7	3·8	—	—
Drowned	—	—	—	—	5	2·7
TOTAL	2,891	1606·1	61	33·8	27	15·

TABLE, No. 2.

SHOWING the Number of DAYS' SICKNESS from each DISEASE and from INJURIES, the Average Number of Men Sick Daily, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Continued and Remittent Fever	1,738	145	1,883	5·1	2·8
Intermittent Fever	1,187	-	1,187	3·2	1·7
Small Pox	21	-	21	—	—
Measles	33	-	33	—	—
Scarlatina	31	28	59	·1	—
Disease of the Brain	47	-	47	·1	—
Apoplexy	70	18	88	·2	·1
Epilepsy	127	18	145	·3	·1
Paralysis	-	22	22	—	—
Insanity	44	59	103	·2	·1
Delirium Tremens	21	-	21	—	—
Neuralgia	62	-	62	·1	—
Vertigo	9	16	25	—	—
Inflammation of the Lungs and Pleura	105	172	277	·7	·3
Phthisis and Hæmoptysis	178	200	378	1·	·5
Influenza and Catarrh	1,503	-	1,503	4·1	2·2
Cynanche	172	19	191	·5	·2
Asthma	6	-	6	—	—
Disease of the Heart, Functional and Organic	550	220	770	2·1	1·1
Hæmorrhoids	39	-	39	·1	—
Varix	63	-	63	·1	—
Aneurism	3	-	3	—	—
Disease of the Stomach and Bowels	70	1	71	·1	—
Dysentery	565	68	633	1·7	·9
Diarrhœa	1,607	-	1,607	4·4	2·4
Cholera	64	-	64	·1	—
Constipation and Colic	251	-	251	·6	·3
Disease of the Liver	444	462	906	2·4	1·3
Jaundice	47	-	47	·1	—
Splenitis	21	-	21	—	—

TABLE, No. 2.—Showing the Number of Days' Sickness from each Disease, &c.—*cont^d.*

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	32	-	32	—	—
Syphilis	2,648	1,548	4,196	11·4	6·3
Gonorrhœa	627	56	683	1·8	1·
Orchitis	489	40	529	1·4	·7
Stricture	186	234	420	1·1	·6
Incontinence of Urine, &c.	52	-	52	·1	—
Rheumatism	2,035	683	2,718	7·4	4·1
Disease of the Bones and Joints	248	193	441	1·2	·6
Inflammation of the Eyes	94	240	334	·9	·5
Otitis and Deafness	3	-	3	—	—
Erysipelas	61	45	106	·2	·1
Scrofula	9	100	109	·2	·1
Bubo (*Symp.*)	738	-	738	2·	1·1
Phlegmon and Abscess	4,019	159	4,178	11·4	6·3
Ulcer	4,947	298	5,245	14·3	7·9
Psora	2	-	2	—	—
Eruptions, &c.	236	-	236	·6	·3
Dyspepsia and Debility	884	162	1,046	2·8	1·5
Scurvy	68	-	68	·1	—
Dropsy	112	-	112	·3	·1
Worms	34	-	34	—	—
Headache	50	-	50	·1	—
Wounds and Injuries	6,478	1,056	7,534	20·6	11·4
Burns and Scalds	487	80	567	1·5	·8
Hernia	142	-	142	·3	·1
TOTAL	33,759	6,342	40,101	109·8	61·

TABLE, No. 3.

SHOWING the Number INVALIDED from each Ship employed on the CAPE of GOOD HOPE and EAST INDIA STATION.

CAUSE of INVALIDING.	Highflyer.	Lyra.	Orestes.	Pantaloon.	Penguin.	Princess Royal.	Rapid.	Seringapatam.	Severn.	Valorous.	Vigilant.	Wasp.	TOTAL.
Continued and Remittent Fever	–	1	–	–	–	–	–	–	–	–	1	1	3
Epilepsy	1	–	–	–	–	–	–	–	–	–	–	1	2
Paralysis	1	–	–	–	–	–	–	–	–	–	–	–	1
Insolation	1	–	–	–	–	–	–	–	–	–	–	–	1
Inflammation of the Lungs and Pleura	1	–	–	–	–	–	–	–	1	–	–	–	2
Phthisis and Hæmoptysis	–	–	–	–	–	2	–	–	–	1	–	1	4
Disease of the Heart, Functional and Organic	4	1	–	–	–	–	–	–	–	1	–	2	8
Dysentery	–	–	–	1	–	–	–	–	–	–	–	–	1
Disease of the Liver	–	–	–	1	–	–	–	–	2	–	1	1	5
Syphilis	–	–	–	–	–	–	–	–	2	–	–	–	2
Orchitis	1	–	–	–	–	–	1	–	–	–	–	–	2
Stricture	–	–	–	–	–	–	–	–	–	1	–	–	1
Rheumatism	–	1	1	–	–	–	1	–	–	–	3	–	6
Diseases of the Bones and Joints	–	–	–	–	–	–	1	–	–	–	–	1	2
Amaurosis and Cataract	1	–	–	–	–	–	–	–	–	–	–	–	1
Otitis and Deafness	1	–	–	–	–	–	–	–	–	–	–	–	1
Scrofula	1	–	–	–	–	–	–	–	–	–	–	–	1
Abscess	–	–	–	–	–	–	–	1	–	–	–	–	1
Ulcer	–	–	–	–	–	1	1	–	–	–	–	–	2
Dyspepsia and Debility	–	–	1	–	–	–	–	1	–	–	–	–	2
Wounds	–	–	–	–	–	1	1	–	1	3	–	–	6
Hernia	1	1	1	–	1	–	–	–	–	2	–	1	7
TOTAL	13	4	3	2	1	4	5	2	6	8	5	8	61

TABLE, No. 4.

SHOWING the Number of DEATHS in each Ship employed on the CAPE of GOOD HOPE and EAST INDIA STATION.

CAUSE OF DEATH.	Highflyer.	Lyra.	Orestes.	Pantaloon.	Penguin.	Princess Royal.	Rapid.	Severn.	Vigilant.	Wasp.	TOTAL.
Continued and Remittent Fever	–	–	1	–	–	–	–	–	1	–	2
Small-pox	–	–	–	–	–	–	–	–	–	1	1
Inflammation of the Brain	1	–	–	–	–	–	–	–	–	–	1
Apoplexy	1	–	–	1	–	–	–	1	–	–	3
Tetanus (Traumatic)	–	–	–	–	–	–	–	1	–	–	1
Disease of the Heart	–	–	–	–	–	–	1	–	–	–	1
Aneurism	1	–	–	–	–	–	–	–	–	–	1
Dysentery	–	–	–	–	1	–	1	–	–	–	1
Cholera	3	–	–	–	2	1	–	–	–	–	6
Rheumatism	–	–	–	1	–	–	–	–	–	–	1
Wounds and Injuries	–	–	–	1	–	1	–	–	–	2	4
Drowned	–	1	1	–	1	–	1	–	–	1	5
TOTAL	6	1	2	3	3	2	3	2	1	4	27

Table, No. 5.

Showing the Names of the Ships; the Average Complements, &c.; the Number of Cases; the Total Number of Days' Sickness on Board; the Average Number of Men Sick Daily in each Ship; and the Number discharged to Hospital.

S. C. Station Changed. C. Commissioned. P. O. Paid Off. D, Returns Defective.

Rate, &c.	NAMES of SHIPS.	Where Commissioned.	When Commissioned.	Number of Guns.	Tonnage.	Horse Power.	Period.	Average Complements.	Average Complements Corrected for Time.	Number of Cases of Disease and Injury.	Number of Days' Sickness on Board.	Average Number of Men Sick Daily for Twelve Months.	Ratio per 1,000 of Average Force of each Ship.	Number discharged to Hospital.
Second Rate	Princess Royal, S.C.	Devonport	15 Feb. 1864	73	3,129	S. 400	1 Jan. to 31 Mar.	755	190	172	2,424	6·6	34·7	8
Fourth Rate	Severn - S.C.	Devonport	19 July 1862	35	2,767	S. 500	1 July to 31 Dec.	505	255	480	4,624	12·6	49·4	19
Sixth Rate	Highflyer - C.	Portsmouth	15 Dec. 1864	21	1,161	S. 250	1 April to 31 Dec.	245	185	310	3,402	9·3	50·2	12
	Orestes - P.O.	Sheerness	31 Aug. 1861	21	1,715	S. 400	1 Jan. to 21 June	265	130	327	3,877	10·6	81·5	11
	Valorous - -	Devonport	15 April 1863	16	1,257	P. 400	Year - -	220	220	353	3,914	10·7	48·6	31
	Wasp - - -	Portsmouth	16 Nov. 1863	13	974	S. 100	Year - -	185	185	260	3,680	10·	54·	7
Sloop	Lyra - - -	Portsmouth	22 Dec. 1863	7	488	S. 80	Year - -	100	100	193	2,111	5·7	57·	2
	Pantaloon - -	Bombay	15 Jan. 1863	11	574	S. 150	Year - -	135	135	186	3,231	8·8	65·1	3
	Rapid - -	Woolwich	12 June 1862	11	672	S. 150	Year - -	115	115	197	1,874	5·1	44·3	8
Gun Vessel	Penguin - -	Devonport	- Dec. 1860	5	431	S. 80	Year - -	70	70	164	1,908	5·2	74·2	3
	Vigilant - D.	Sheerness	13 Feb. 1863	4	680	S. 200	Year - -	95	95	108	1,290	3·5	36·8	3
Receiving Ship	Seringapatam -	Cape of Good Hope.	- - -	-	1,152	-	Year - -	120	120	141	1,384	3·7	30·8	18

TABLE, No. 6.

SHOWING the Number of CASES of all DISEASES and INJURIES in each Ship employed on the CAPE of GOOD HOPE and EAST INDIA STATION.

DISEASE OR INJURY.	Highflyer.	Lyra.	Orestes.	Pantaloon.	Penguin.	Princess Royal.	Rapid.	Seringapatam.	Severn.	Valorous.	Vigilant.	Wasp.	TOTAL.
Continued and Remittent Fever	36	37	14	–	1	40	16	1	42	–	8	1	196
Intermittent Fever	–	–	12	38	–	–	4	–	3	–	1	20	78
Small-pox	–	–	–	–	–	–	–	–	–	–	1	1	2
Scarlatina	–	–	–	–	–	–	–	–	–	4	–	–	4
Measles	–	–	–	–	–	–	–	–	–	–	–	2	2
Disease of the Brain	1	–	–	–	–	–	–	–	–	–	–	–	1
Apoplexy	*a* 2	–	–	1	–	–	–	–	1	*a* 1	–	–	5
Epilepsy	3	–	–	–	–	–	–	–	1	–	–	2	6
Insanity	–	–	–	–	–	1	–	–	–	–	–	–	1
Delirium Tremens	1	–	1	–	–	–	–	3	–	–	–	–	5
Neuralgia	–	–	–	–	–	–	–	–	1	13	–	–	14
Vertigo	1	–	1	–	–	–	–	–	–	1	–	1	4
Inflammation of the Lungs and Pleura	2	2	–	–	–	–	–	2	2	2	–	–	10
Phthisis and Hæmoptysis	–	–	1	1	–	2	–	–	2	–	–	1	7
Influenza and Catarrh	17	33	57	6	8	2	18	18	44	50	16	9	278
Cynanche	4	1	4	–	–	4	1	–	5	4	1	–	24
Asthma	–	–	–	–	–	–	1	–	–	–	–	–	1
Disease of the Heart, Functional and Organic	4	1	–	4	1	2	1	1	4	–	–	3	21
Aneurism	1	–	–	–	–	–	–	–	–	–	–	–	1
Hæmorrhoids	1	–	–	–	–	1	–	–	1	1	–	–	4
Varix	–	–	2	–	–	–	–	–	–	–	–	–	2
Inflammation of the Stomach and Bowels	–	1	–	1	–	–	–	–	2	–	–	–	4
Cholera	6	–	–	–	2	3	–	–	–	–	–	–	11
Dysentery	–	1	4	2	2	2	3	–	8	–	3	3	28
Diarrhœa	19	17	37	16	7	20	21	6	46	21	6	11	227
Constipation and Colic	7	1	7	1	3	–	7	1	10	8	2	9	56
Inflammation of the Liver	1	2	3	–	1	1	–	1	6	–	1	7	23
Jaundice	1	–	–	–	–	–	1	–	–	–	1	–	3
Splenitis	–	–	–	–	–	–	–	–	–	–	–	1	1
Inflammation of the Bladder and Kidneys	–	–	–	–	–	–	–	1	–	1	–	1	3
Syphilis, Primary and Secondary	6	3	6	9	9	10	4	13	17	26	7	8	118
Gonorrhœa	5	8	1	–	–	–	2	4	4	16	1	2	43
Orchitis	7	–	1	2	–	2	4	–	4	3	–	3	26
Stricture of the Urethra	2	–	2	–	–	–	–	4	2	2	–	–	12
Incontinence of Urine, &c.	–	–	–	–	–	1	–	–	–	1	–	–	2
Rheumatism	14	6	20	12	8	4	15	9	14	28	6	15	151
Disease of the Bones and Joints	1	–	1	2	2	3	4	–	–	2	–	7	22
Inflammation of the Eyes	–	2	1	1	–	1	–	1	4	–	–	–	10
Otitis and Deafness	1	–	–	–	–	–	–	–	–	–	–	–	1
Erysipelas	–	–	–	–	–	–	–	1	3	–	–	–	4
Scrofula	–	–	–	–	–	1	–	–	–	–	–	–	1
Bubo (*Symp.*)	3	3	2	1	4	1	3	5	5	3	1	3	34
Phlegmon and Abscess	59	27	40	28	56	18	35	9	67	48	16	35	436
Ulcer	26	10	22	18	19	22	16	7	35	15	11	15	216
Psora	–	–	–	–	1	–	–	–	3	–	–	–	4
Eruptions, &c.	3	3	–	–	–	2	–	–	–	1	–	1	10
Dyspepsia and Debility	19	4	7	5	14	–	1	8	20	5	1	24	114
Scurvy	–	–	–	6	–	–	–	–	–	–	–	–	6
Headache, &c.	–	–	–	–	3	–	–	–	1	2	–	–	6
Dropsy	3	–	–	–	–	1	–	–	–	–	–	–	4
Worms	–	–	*b* 1	–	–	–	–	1	–	*b* 2	–	–	4
Wounds and Injuries	50	26	72	27	20	26	37	44	120	86	18	75	601
Burns and Scalds	4	4	5	5	1	2	3	1	4	3	1	–	33
Hernia	–	1	3	–	2	–	–	–	1	2	–	–	9
TOTAL	310	193	327	186	164	172	197	141	480	353	108	260	2,891

a Insolatio.

b Tænia.

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THE squadron on this station, in 1865, consisted of twenty-five vessels; of these, two were ships of the second rate; two of the fourth rate; one of the fifth rate; three of the sixth rate; there were three sloops; six gun-vessels; two steam vessels; one gun-boat; two surveying vessels; one troop-ship; one store-ship, and one receiving-ship permanently stationed at Hong Kong; there were likewise about fifteen small gun-boats without medical officers, from which, consequently, no reliable returns of cases could be obtained. Besides the force employed in these vessels, there was a battalion of Marines in Japan. The total mean force, corrected for time, was 5,250, which is the number taken in computing the invaliding and death-rates; but in computing the ratio of cases under treatment in the squadron, a deduction, to the extent of the crews of the small gun-boats, in which there were no medical officers, requires to be made, and the mean force, therefore, for that purpose is taken as 4,700. The total number of cases of disease and injury under treatment during the year, was 7,954, which is in the ratio of 1692·3 per 1,000 of mean force, being a very slight increase as compared with the preceding year. The returns from twenty-one of the vessels and from the Marine battalion are for the whole year. In the remaining vessels they vary from three to nine months.

The daily loss of service from febrile disease, including the exanthemata, was equal to about thirty-six men, or in the ratio of 7·6 per 1,000 of mean force; from diseases of the brain and nervous system the daily sick-rate was ·6 per 1,000; from diseases of the respiratory organs, 5·9; of the heart and blood-vessels, ·8; of the alimentary canal, 6·5; of the liver, ·5; from diseases of the genito-urinary organs, almost entirely venereal, the daily loss of service was equal to 104 men, or in the ratio of 22· per 1,000; from rheumatism the daily sick-rate was 5·9; from diseases of the bones and joints, ·1; of the special senses, ·5; of the skin and cellular tissue, 17·0; from dyspepsia and debility, 2·1; dropsy, ·1; and from wounds and injuries of various kinds, 8·1. The total

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total number of men daily ineffective from disease or injuries was 378, which is in the ratio of 80·4 per 1,000 of mean force, being an increase, compared with the previous year, equal to 7·6 per 1,000. It is melancholy to observe that more than one-fourth of the total sick-rate in this squadron during the year was occasioned by venereal diseases.

Fevers.—Seven hundred and ninety-six cases of fever of a continued or remittent type were under treatment during the year; 145 cases of ague; and 105 cases of small-pox; six persons were invalided for the sequelæ of primary fever; and three for ague; there were eight deaths from primary fever, and twelve from small-pox. The average duration of each case of primary fever on board ship and in hospital, was about nine days; of each case of ague between eight and nine days; and of each case of small-pox about forty-five days.

Continued and Remittent Fevers.—There were ninety-four cases of primary fever in the Adventure, seventy-eight of which occurred in the Michaelmas quarter of the year at Hong Kong, where fever was prevailing in an epidemic form on shore, and caused considerable mortality in the garrison. The following observations on this epidemic are by the surgeon* of the ship:—

"Hong Kong had, for the month of July, been very unhealthy, but it now daily became worse, and on our arrival was in a fearful condition. The season had been unusually dry, and hotter than had been known for many years; day after day the same heat prevailed, there was no movement in the air, and night brought no relief; the thermometer remained the same as it did by day. . . . . Cases of fever commenced on shore amongst the troops who had landed a few months previously from the Mediterranean and Cape. This did not attract much attention at first, but the cases continued to increase in numbers and severity; women and children were attacked; the European residents next suffered, and eventually the Chinese population. The mortality amongst the European and native inhabitants became very great and alarming. . . . . Up to the arrival of the Adventure at Hong Kong in July, the crew had been in fair health, though the sick-list remained high. As the season was sickly, she was moored in the centre of the harbour, to be as far as possible from telluric influences, and for the purpose of obtaining the refreshing effects of the monsoon, which this summer was very light. Two days after arriving in Hong Kong, two cases of fever were placed on

* Surgeon W. W. Adams.

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on the sick-list, both of a mild type. On the 1st of August an officer complained of the same symptoms, and thereafter fresh cases occurred daily during the month, the total number admitted being sixty-seven, out of a crew of 150 officers and men, nineteen cases being admitted between the 26th of August and the 2nd of September. The type of fever that prevailed on board presented a remarkable uniformity in symptoms and character, the leading features being of a continuous form, commencing with quick pulse, headache, giddiness, pains in the back, and especially in the lower extremities, flushed face, hot skin, bright eyes, and furred tongue. In most cases the bowels were constipated; in many, nausea with bilious vomiting occurred, and a very prevalent complaint was pain, or rather a sense of fulness of the eyeballs. The prostration was excessive, and set in with great rapidity, and was usually accompanied with congestion either of the liver or the lungs. In two cases only was the spleen affected to a noticeable degree. The pulse after forty-eight, and in some instances, twenty-four hours, would fall rapidly, and become weak and even intermittent. There was great wakefulness; the skin was always hot and pungent to the feel, and at the same time there was a faint yellowish tinge of the conjunctiva and skin. It was not at all uncommon, after twenty-four hours, to find strong men lying in a listless manner, indisposed even to move in bed, with a very small pulse, dusky lips, and their faces blanched as if they had suffered from a profuse hæmorrhage. In one or two instances, indeed, syncope occurred. This bleached appearance remained for a long time after convalescence, and a very slight attack of fever was sufficient to induce it.

"The only relief to the hepatic derangements was the use of emetics and strong mercurial purgatives; these latter, after one or two doses, never failing to relieve the vomiting. Quinine was largely used, and, combined with an opiate, was found beneficial in many cases; but the symptoms of depression and rapidly failing power were so marked after a few hours, that it was absolutely necessary to have recourse to the strongest stimulants, with mutton broth and beef tea. Brandy, rum, champagne, eggflip, port wine, sherry, and ale and porter, were used most freely, according to the inclination or caprice of the patient, and certainly with marked benefit, as, although convalescence was in most cases protracted, all returned to duty."

In the Algerine, which was stationed for the greatest part of the year in the north of China, there was only one case of primary fever. It was strictly ephemeral, the patient being only two days on the sick-list.

Chefoo, where the Algerine was chiefly stationed, is very favourably spoken of by the medical officer* of the vessel. He says:—

"I believe Chefoo to be a very healthy place. The gunboat is stationed

* Assistant Surgeon Dr. Thomas Redfern.

stationed during the greater part of the year at an island called English, or Dockyard Island, which is about four and a half or five miles from the mainland; and although it is exceedingly small, I believe it to be very healthy during the summer months. The island is not more than one thousand yards long, by between one hundred and four hundred wide. There are three mounds on it, one at the east end, one at the west, and one in the centre. On the mound at the west end are situated the two huts for the officer and men in charge, the sheds for stores being below on the beach. The island is supplied with water from a well situated at the foot of the east mound. It is very good, fresh, and clear, although sometimes it tastes slightly brackish, especially to those who come fresh to the island.

"Chefoo is an admirable place for fruits and vegetables, almost every variety being procurable in season. Grapes are in great profusion. All the fruits and vegetables can be eaten without fear of any ill results accruing from them. Beef and mutton are cheap and good; fowls, pigeons, and eggs, very cheap, and very good. Upon the whole, I am of opinion that if the majority of the sick and debilitated were sent here from Shanghai during some part, if not the whole, of the summer months, they would speedily regain their former health and strength, and be enabled to remain longer than they otherwise would on the station."

There were twenty cases of primary fever in the Argus, seventeen of which occurred during the Michaelmas quarter of the year, when the vessel was at Shanghai. They are all classed as ephemeral in consequence of their being very amenable to treatment. The average duration of each case, however, was over ten days.

There were one hundred and thirty-nine cases of primary fever in the Barrosa, one of which proved fatal. Thirty-nine of these occurred during the Michaelmas quarter of the year, and ninety-five in the Christmas quarter, when the vessel was employed at Shanghai; cases of fever, however, had begun to make their appearance previous to the vessel's leaving Nagasaki for Shanghai. The surgeon* says:—

"A number of mild ephemeral cases of fever came on the list; the pyrexia ran high in one or two instances; frontal headache was the principal symptom, but they were all amenable to treatment by saline purgatives, and subsequently quinine and port wine. About a week before leaving Nagasaki for Shanghai, the ship's company had leave. After this several cases of a rather more severe type occurred, especially in those men who had drunk to excess. We arrived in the River Yangtsekiang and Shanghai about the 26th of September; there were then eight cases of fever under treatment, one

* Surgeon R. J. B. Head.

China Station.

one of which assumed a severe form, but was convalescing on our arriving in the river. . . . . In the beginning of October, the disease put on quite an epidemic character, from six to eight fresh cases coming under treatment daily."

It appears that fever was also prevailing on shore at Shanghai, and among the merchant shipping in the river at the same time, but that it was not of a very fatal character. The duration of the acute symptoms was usually three or four days, and of the whole treatment from one week to three. Relapses occasionally occurred, and in one or two instances the same man was attacked three times. Prostration after these attacks was very distressing.

There were twelve cases of primary fever in the Conqueror, the average duration of each case on board ship being between eleven and twelve days. Two of the cases were sent to hospital. In one or two instances the symptoms appear to have been rather urgent. The medical officer* says:—

"Three somewhat severe cases of fever appeared in July and August at Yokohama, and immediately after leaving. The first of these, a seaman, had had fever before, and presented himself again with a sharp attack shortly after return from leave. He was treated on board, and whilst confined to his cot in the sick-bay, a second case appeared in a man already on the list with ulcer. This man was sent to hospital, and on the ship's sailing for England a fortnight afterwards, he was well enough to return on board, although in a very debilitated condition, and requiring an eight weeks' course of tonics, full diet and wine, before he was fit for duty. After his return on board, a third slighter case presented itself. All these presented the same characters,—early and great prostration, headache and wandering, without any marked remissions or exacerbations. None of the ordinary signs of typhus or typhoid existed, and the disease had a short and indefinite course. The average period of treatment on board was twenty days. About the same time of year, the early summer, a number of trifling cases of ephemeral fever appeared combined with catarrh, under which head they were returned in the Nosological Table. Headache and extreme lassitude with debility were the marked symptoms, but the cases all did well with a few days' rest, quinine and wine. After a stay of rather more than a fortnight at Hong Kong, during September and October, with hot close weather, and, at times, strong wind and heavy rain, the ship's company being at the time working hard refitting ship, and unavoidably exposed at times to the sun, a few cases of fever appeared. In all seven were entered during the early part of October, none of them of any severity, and all of them recovering after an average period of treatment of seven days."

In

* Acting Surgeon Henry Hadlow.

In the Coquette there were fifteen cases of primary fever, all, with one exception, of an ephemeral character. But very little information is given in connection with the exceptional case. The surgeon of the ship designates it typhus or Batavian fever. It was probably a severe form of remittent, which is the endemic fever of that locality.

There were seventy-three cases of primary fever in the Cormorant, all of which are classed in the return as continued, and appear, for the most part, to have been mild in their nature, the average duration of each case on board ship being between six and seven days. Some of them, however, were very severe, and one died in hospital at Hong Kong. Sixty of the cases occurred during the Michaelmas quarter, when the vessel was at Hong Kong, where fever was prevailing epidemically on shore, as has been previously stated. The surgeon* makes the following remarks on the fever cases that occurred in this vessel:—

"Under the head of fevers we had one case of typhoid occurring in a boy, who was sent to hospital. During the Michaelmas and early portion of the concluding quarter of the year, a large number of cases of a mild form of fever were admitted to the sick-list, each of which continued three or four days, was succeeded by great debility, and followed in many instances by successive crops of small boils. The disease was not limited to this ship; a similar affection, I believe, prevailed in other vessels and in the Melville, and to a great extent in Victoria, yet, strangely enough, newly raised men were affected soon after joining this ship, and in one instance, where the disease attacked a young coloured man who had recently joined, it proved very severe, and the patient was sent to hospital.

"The summer of 1865 in Hong Kong was most oppressive, and warmer than it had been for many years previously. The mere temperature, as measured by a thermometer, conveys but little notion of the almost intolerable heat experienced. The thermometer readings were as follows, viz.:—

May	- extreme range	64° to 82°	-	mean 75° to 78°	
June	- „	72° „ 87°	-	„ 80° „ 83°	
July	- „	78° „ 88°	-	„ 82° „ 84°	
August	„	75° „ 86°	-	„ 80° „ 83°	
September	„	78° „ 87°	-	„ 80° „ 82°	

but in this, as in many other cases, the hygrometric condition of the atmosphere would be far more important. Throughout the entire twenty-four hours, during the above months, the flow of perspiration was profuse and continuous, and this, together with the previous enervating effects of climate, tended to produce great exhaustion, and susceptibility to disease.

"The

* Surgeon Richard Eustace.

Pacific Station.

"The attack was heralded generally by slight rigors, followed by violent headache, throbbing over the eyes, wearying pains in the loins and limbs, pungently hot skin, urgent thirst, complete anorexia loss of taste, with great languor and debility. The headache and febrile heat generally abated on the third day, leaving all the debility behind, and as a general rule patients were discharged to duty within a week from the commencement. The treatment consisted, first in the use of diaphoretics followed by quinine and tonics.

"At times, particularly after steaming during the hot weather, a most unpleasant and suffocating odour arose from the bilges; but, so far as the ship was concerned, every possible means of purification was adopted. The holds were cleared and whitewashed, the bilges thoroughly and repeatedly cleansed and washed out with solution of chloride of lime, the bedding and men's clothing frequently aired, the lower or sleeping deck freely ventilated and sprinkled with chloride of lime; but, notwithstanding all, the strange suffocating odour at times rose up, and the fever still continued to rage, until few, either men or officers, in the ship escaped, and some had a second attack."

Whatever might have been the deleterious influence of this state of matters on the health of the ship's company, there can be little doubt that it was not the cause of the fever by which they were visited at Hong Kong. The disease was prevailing in a very alarming manner on shore; it existed in other ships in the harbour; and it subsequently entirely ceased on board the Cormorant, although the odour referred to continued despite all attempts at purification.

The cases of primary fever in the Euryalus, only seven in number, were of a very ephemeral nature, the average duration of each being between four and five days. The same remarks apply to the cases that occurred in the Hesper and Insolent.

There were eighteen cases of primary fever in the Leopard, thirteen of which are classed as febricula. Of the remainder, four, which are returned as continued, had each an average duration of little more than ten days. Two of them, however, proved fatal, one being complicated with pneumonia; in the other the head symptoms were most prominent. In the former instance the disease appears to have been contracted at Shanghai, and in the latter in Japan. One case of fever in this vessel is classed as gastric, but no other information is given in connection with it.

There were eleven cases of primary fever in the Leven. The majority of these occurred in the month of August, when

when the ship was at Hong Kong. The average duration of each case was between eight and nine days. A distinct though not perfect daily remission was generally experienced in the afternoon in these cases, which were also accompanied with great depression.

There were only two cases of primary fever in the Manilla, one of which was ephemeral, the other remittent. Neither of them appears to have been of any importance.

There were eighty-six cases of primary fever in the battalion of Royal Marines stationed in Japan, of which eleven, classed as continued, occurred at Yokohama, in the Lady quarter of the year; one continued, and sixteen febricula in the Midsummer quarter, at the same place; thirty continued, in the Michaelmas quarter, one-half at or after leaving Yokohama, and the remainder at Hong Kong; and twenty-eight continued, in the Christmas quarter, after leaving Hong Kong. One case proved fatal. The average duration of each case on the sick-list was about twelve days. The following observations on the different forms of fever that occurred in the battalion during the year are by the medical officer* in charge:—

"Fevers originated either at Yokohama or Hong Kong.—1st. Yokohama. Owing to their ill-defined type, their diagnosis was difficult, and occasionally impossible. Some, exhibiting periodic tendency, were classed under 'intermittent,' but 'continued' predominated. Relapses were frequent, and not confined to the original character; intermittent was followed by febricula, and the continued form by bastard-ague. Including fifteen re-admissions, seventy cases occurred altogether, with 691 days' loss of service, giving an average of ten days to each. The fever was mild, and yielded readily to laxatives followed by quinine. The only important case was one which nearly terminated fatally. Typhoid symptoms set in early and rapidly, and he would have sunk but for the great care and unwearied attention bestowed on him. The object being to combat the tendency to death by means of stimulants and nourishment, the utmost vigilance was required to seize all opportunities for their administration. He was considered moribund on more than one occasion, and I never saw so marvellous a recovery. His constitution was so exhausted that all parts on which he rested, for even a short time, sloughed deeply and extensively. The trochanters were exposed, the malleolar integuments sloughed; so did even the sole of the heel, the densest portion of the integumental surface; and the sacrum will bear a deep cicatrix for life. Intermittent fever, with

* Dr. C. K. Ord.

China Station.

with its three regular stages, seldom or never presented itself. From the weekly returns sent to me, as principal medical officer of the garrison, and from the regimental medical officers in conversation, I found it was very different in the 2-20th regiment, encamped close to us, in whom it was very prevalent. I do not consider Japan should be blamed, however, as the disease was contracted by this corps in China, and relapses were many.

"2nd.—The fever at Hong Kong was also ill-defined, but oftener continued than periodic. In some cases it passed off in three or four days; in more persistent instances it was inclined to remit; in all, considerable and unusual debility followed; and in one person death ensued. This case ran its rapid course in five days; typhoid, dark discoloration of the fauces, and insensibility, supervened early. Without any desire to inculpate the sun, &c., unnecessarily, it must be stated that besides this person, five men of this battalion (three from the Conqueror and two from the Princess Charlotte), none of whom suffered, played a cricket match on the 4th and 7th of October. The former day was cloudy, calm, and cool, the latter showery, with intervals of burning sunshine. Hong Kong was exceedingly unhealthy; and during the previous eighteen months this man was punished on seven occasions for drunkenness. Such a combination of circumstances may, to some, account for so unfortunate a termination of the case.

"The fever appeared almost as an epidemic under the following circumstances. To repair the heavy damages sustained in a cyclone, for caulking and other purposes, it was necessary to clear the Conqueror's main deck, where the battalion lived, and advantage was taken of the Princess Charlotte to do so. The right wing, in medical charge of an assistant surgeon, was transferred, the day after our arrival, to her middle deck, which was entirely appropriated to their accommodation. It comprised the first three companies, with nine officers and 160 men. The disease commenced four days afterwards, and continued until the last, worst, and only fatal case occurred, nine days after leaving the port. The officers of the battalion had cabins well aft on this deck, or under the poop, messed in the ward room, and were never affected. Its peculiar phenomena were: (*a*) that it was confined to the *men* of this wing; (*b*) that it extended among them after they returned to the Conqueror; (*c*) that it was not communicated to other persons; and, lastly (*d*) that the Conqueror and Princess Charlotte's ships' companies were completely exempt from the disease. From these premises it may be inferred, that it was contracted on the Princess Charlotte's middle deck; that it was peculiar to this wing; and that it was non-communicable. Whatever the real explanation may be, the facts observed indicate that the poison was localised in a particular deck of the Princess Charlotte. The fact of living on different decks in the same ship seems to have made all the difference possible. It may help to elucidate this matter (if it be correctly reported) that a short time previous a detachment of Her Majesty's 11th Foot, with a similar fever, from Kowloon, lived on this very spot, and continued to suffer from the disease, while the crew were as exempt as on this occasion. It may be

be supposed that the poison adhered to the wood. I am not sufficiently conversant with the fevers of Hong Kong to state whether this was identical with or akin to the form which then and for some time prevailed so fatally and extensively on shore."

The following Table of Comparison between the fevers contracted in Japan and at Hong Kong is also furnished by the same officer:

Fever contracted at	Number of Cases.			Days' Sickness.		
	Yokohama.	Hong Kong.	Total.	Yokohama.	Hong Kong.	Total.
Continued - - -	42	42	84	495	511	1,006
Intermittent - - -	28	–	28	196	–	196
Total - - -	70	42	112	691	511	1,202
With Re-admissions -	15					

N. B.—Two cases are excluded from this Table, the tendency to febrile disease being considered to have been contracted at Rio de Janeiro.

The medical officer* who was sent on board the Princess Charlotte, in medical charge of this part of the battalion, makes the following observations on this epidemic:—

"Fever broke out among the men sent on board the Princess Charlotte, the first case appearing on September the 25th, eight days after our being sent there. By the date of our re-embarking on board the Conqueror (the 4th of October) thirty-one men of the right wing were affected with fever. It was characterised by headache (referred to the eyes) lumbar pains, foul tongue, and early prostration. The men belonging to the right wing alone were affected, the left wing remaining on board the Conqueror being quite free from it.

"Working parties were daily sent from the Princess Charlotte to the Conqueror, one watch going at 7.30 a.m., and returning to dinner; the other watch going at 2.30 p.m., and returning to supper. Thus each watch only worked four hours a day on board the Conqueror, which lay within 100 yards of the Princess Charlotte. Why it should appear in a large roomy hulk, and not in a comparatively crowded ship, is unaccountable, as both were apparently exposed to the same causes.

"Two companies of the 11th regiment very unhealthy, and similarly affected to our men, were, about a month previously, berthed on

* Assistant Surgeon Angus Robertson.

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on the same deck. They had been doing duty on shore at Kowloon prior to this, but the disease gave no evidence of its being infectious, as the ship's company of the Princess Charlotte remained quite healthy, and after our return on board the Conqueror, with all these cases of fever, not one case appeared among those who remained in the Conqueror, though cases continued to appear among those who had been on board the Princess Charlotte, up to the 17th instant, nine days after leaving Hong Kong, and twelve after the re-embarking on board the Conqueror.

"On going from the Princess Charlotte to the Conqueror, the men certainly went in boats without awnings in a very hot sun, but the time they were thus exposed was so short, that it is hardly possible it could have a very injurious effect on the men. Besides, a staff sergeant, and two of the officers' servants, were similarly affected."

There can be little doubt that this last paragraph contains the true solution of the origin of the epidemic of fever that occurred among these men. No one who has had any experience of the danger of exposure to the mid-day sun at Hong Kong in the month of September will have any difficulty in understanding how readily fever might be developed in men who were exposed, even for a short time daily, in an open boat, to its pernicious influence. That the men of the Conqueror who were employed at work, exposed also to the sun, in refitting the ship, were not similarly affected does not invalidate this view of the case. Experience has abundantly shown that where the exigencies of the public service require such exposure, and it is only under such circumstances that it should ever be permitted, those whose duties call for activity, both of mind and body, even for a length of time, are in much less danger than those who undergo the same exposure, even for the shortest period, unemployed. To sit, under such circumstances, in an open boat, unprotected by awnings, and exposed to a September sun, in such a harbour as that of Hong Kong, even for a short time, would be perhaps, of all conditions, the most favourable for incurring the risk of insolation. The men employed at the oars in the boat were in much less danger than the mere passengers. It does not appear to be at all necessary to connect the fever which affected the men of the 11th regiment with the Princess Charlotte. They unquestionably brought the disease with them from Kowloon, where it was prevailing extensively. Neither in those men, indeed, nor in the marines subsequently, had the Princess Charlotte anything to do with the induction of the disease.

The

The average duration of each of these cases was between eleven and twelve days.

There were fifty-two cases of primary fever in the Osprey, the majority of which occurred during the Michaelmas and Christmas quarters of the year. Four of these cases are classed as continued; two as remittent; and forty-six as febricula. The surgeon* says:—

"The number of cases added to the list this year is just double the number of the preceding year. This difference is not to be accounted for by any existing cause within the ship, but was simply caused by an epidemic that prevailed in China and Japan. In the south of China, I believe, it has been of a most violent nature, but happily in the north, and also in Japan, the disease has been mild, with a general tendency to recovery. I am not alluding to the fleet only, but the same applies to the foreign residents in the localities mentioned. At Nagasaki many of the valetudinarians from China, who came there for change of climate, had mild attacks of continued fever, and even the oldest foreign residents at that salubrious port were not exempt from the same disease. They stated that the last summer was the worst that they had yet endured. At Shanghai I was told that the summer had been more healthy than usual, but there appeared in September and October an epidemic of fever characterised by symptoms similar to those I met with in cases that occurred on board this ship at Nagasaki. From all I could gather during our short trip up the Yangtse, it appeared that the foreign community at the treaty ports had been very healthy.

"Of the fifty-two cases of fever, four are recorded as continued, two as remittent, and the remainder as febriculæ. Two of the cases of continued fever were sent to hospital. The first was the only one where any eruption appeared on the body; the symptoms were mild, however. The second case was sent to Hong Kong Hospital, for palpitation of the heart, which supervened after the fever. The two cases of remittent fever were not severe, but both patients were much debilitated, and made a tardy convalescence. Out of the forty-six cases of febricula, thirty-one were admitted in September and October, when the vessel was at Nagasaki and Shanghai, and when the disease was epidemic at both places. The symptoms were rigors, headache (in most cases great pain in the orbits), slight pyrexia, lassitude, and great debility. Tongue very often clean, but thirst always present. The febrile symptoms soon subsided, but the patient was left very weak; and his last complaint was generally a sense of pain in the lumbar region. I personally experienced all these symptoms. The treatment throughout the disease consisted of quinine and stimulants. In

* Surgeon John Caldwell.

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In some few cases where I purposely withheld the quinine, the patients had relapses. I am therefore of opinion that the disease was induced by the poison of malaria. The spring and summer months were unusually wet, and the autumnal months were very hot."

Only one case of primary fever appears in the return from the Pelorus. It was of the remittent type, and eleven days under treatment.

There were forty-six cases of primary fever in the Perseus, two of which are classed as remittent and the remainder as febricula. Most of the cases of febricula occurred during the Michaelmas quarter of the year. They were of two varieties, and, in reference to their characteristics, the surgeon* has the following remarks :—

"During the stay of the ship at Hong Kong, from the 27th of June to the 13th of July, the men were chiefly employed refitting ship and taking in stores. The weather was oppressively hot, (84° to 90° in the shade); the sky generally unclouded, and rare and exceedingly light breezes found their way into this anchorage, which is so shut in by high, bare, rocky mountains as to render it one of the hottest places in China. Every effort was made to expose our men as little as possible to the sun; all the work which was possible was carried on under awnings. Notwithstanding, seven cases of sun-fever occurred, characterised by headache, giddiness, nausea, pain in the epigastrium, and generally some diarrhœa. The disease rarely lasted more than three or four days, leaving the patients but slightly reduced, so that they were able to return to duty in a very short time. These cases were all returned as febricula. . . . . About the end of August febricula began to prevail, and became more frequent as September wore on. This disease, which I have called febricula, was very distinct in many of its features from the febricula produced by insolation, the latter being generally characterised by general headache, nausea, pain over the stomach, great weakness, diarrhœa, and short convalescence; while the former cases always had severe frontal headache, and pain in eyeballs, loins, and legs, constipation, and long convalescence. It prevailed on board the other men-of-war, as well as in the merchant ships, and in some quarters of the town was very common. It was called by some of the practitioners on shore 'dumb-ague,' and always treated with quinine; to the benefit of which remedy I can also bear testimony. Although the cases rarely presented any distinct intermissions, yet the constancy of the frontal headache, the effects of quinine in curing the disease, along with the malarious nature of Shanghai and its neighbourhood, all render it probable that this fever was owing to marsh malaria. As soon as the Osprey and Barrosa

* Dr. A. B. Messer.

Barrosa arrived here from Japan, towards the end of September, they were speedily attacked by it, while this ship got clear of it very soon after leaving the locality on the 4th of October. It attacked men and officers alike; it did not appear to be communicable, and it did not prove fatal in any case that came to my knowledge."

There was only one case of primary fever in the Princess Charlotte, and it cannot be said to have had any connection with the ship, as it occurred in the person of a blacksmith who was employed in the naval yard, where he resided. He was sent to the hospital ship for convenience of treatment.

There were 109 cases of primary fever in the Princess Royal, of which 107 were ephemeral, one is classed as continued, and one as typhoid. Ninety-nine of the ephemeral cases occurred in the Midsummer quarter of the year, and were attributed to the intense heat to which the ship's company were exposed at Singapore and Bangkok. The average duration of each case was about eight days. The patients first complained of great languor, pain in the loins, and muscular pains throughout the whole body, with anorexia, nausea, and headache. The pulse was from 110 to 125, and there was great heat of surface. These symptoms, lasting a few days, were succeeded by great muscular weakness. In some cases there appears to have been a critical diaphoresis; and in others the disease subsided with an attack of diarrhœa. In some cases the men were struck down, exhausted, as if by sun-stroke. Relapses occurred only in two cases. Benefit was obtained from free stimulation; the use of quinine, in small doses; and, in some, the nitro-muriatic acid, with infusion of gentian.

There were ten cases of primary fever in the Rattler, all of an ephemeral type, and not calling for any comments.

In the Rifleman there were twenty-two cases of primary fever, of which fourteen appear to have been ephemeral, and eight remittent. The average duration of each of the former cases on the sick-list was between four and five days, and of the latter between nine and ten days. These cases mostly occurred towards the close of the Midsummer, and in the commencement of the Michaelmas quarters. With reference to the cases occurring in the former quarter, the medical officer* says:—

"There has been a large increase in the number of fever cases during

* Assistant Surgeon Denis M'Carthy.

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during the quarter, amounting to nearly 3½ per cent. Seven cases of mild continued fever occurred, all of which terminated favourably in from three to seven days. Of the six cases of remittent, four were of a severe type; they occurred on board the tender. A copious furuncular eruption was observed in each during convalescence. They occurred during the surveying operations on Johnson's Bank, fourteen days after the departure of the vessels from Labuan."

There were sixteen cases of primary fever in the Scylla, each of which was, on an average, between ten and eleven days under treatment. Some of these cases appear to have been of considerable severity. The surgeon* says:—

"The prominent symptoms of the fever were great physical prostration and mental depression; one patient, an officer, fainted twice in bed. He suffered from throbbing headache, and had a peevish intolerance of noise. Another officer was very much reduced, and presented a bubonocele of the right side, which we could only account for by the great debility under which he laboured."

Benefit, it is said, was obtained from the use of saline purgatives, support, and stimulation.

There were twenty-two cases of primary fever in the Severn, ten of which occurred during the Lady quarter of the year, when small-pox was epidemic in the ship. They are stated to have at first presented all the symptoms of that disease, and are thought to have arisen from the same exciting cause. They were treated with quinine, stimulants, and nourishing diet, and all returned to duty after a somewhat tardy convalescence. In the following quarter the remainder of the cases occurred. They were, for the most part, slight and unimportant.

There were fifteen cases of primary fever in the Slaney. Many of these cases occurred at Chinkiang, in the Yangtse-kiang river, where the vessel was stationed at different times during the year; the medical officer† says:—

"This port, the first open one on the river, is a large walled city, on the south bank. The foreign concession is situated to the west of the city, and is separated from it only by a branch of the grand canal, which has an outlet here into the great river. This concession is a flat piece of ground, facing the river. Immediately behind it are a range of hills, some 100 feet high. Further on to the west there is a large marsh, which, during the summer months, is constantly

* Surgeon William Edney. † Assistant Surgeon W. M. Power.

stantly covered with water, owing to the river overflowing its banks. In spring, however, in many places this marsh becomes dry, and is covered with a hard crust of dry mud, of a depth of two inches or more. On breaking this crust a dark semi-fluid matter exudes, of a very fœtid nature; this, I think, is the reason why fevers are so prevalent in the spring and fall of the year. When the wind blows off this marsh for any time, cases of ague generally follow. . . . . Left Kinkiang on the 14th of August, arriving at Chinkiang on the afternoon of the 16th; from that time till the first week in September it was raining nearly every day. On the 16th of September remittent fever broke out like an epidemic. Previous to this there had been but one case. On the 10th the wind had been easterly for some days, the weather cloudy and overcast, and the temperature variable, from 70° to 80°. The sun showed out on the afternoon of the 16th, and it became very hot and oppressive about 3 p.m. By 6 p.m. there were two cases of fever on board. One man had been exposed to the sun for a short time; two hours after the attack he became delirious. The same evening two of the custom-house tide-waiters living on board a hulk close to us were taken ill, five altogether being on board. There was also one case on shore amongst the foreign residents on the same evening. It is singular that no case appeared on the opposite shore. There were no fresh cases from the 17th till the 20th, and then there was one on board. As a prophylactic I gave quinine in four-grain doses to the ship's company for three mornings; to a few who had been subject to ague, I gave it twice daily."

Small-pox.—There were five cases of small-pox in the Argus, of which one terminated fatally. The disease was introduced into the ship at the close of the previous year, and four cases remained under treatment at the beginning of 1865. In January five more cases occurred. The case which terminated fatally, occurred in the person of a strong, healthy man who had been re-vaccinated, but unsuccessfully. As the disease was very prevalent at Yokohama, all the officers and men were re-vaccinated; but the successful cases were but few, the lymph, it is stated, being evidently too old, and none other procurable at the time.

There were fifty-nine cases of small-pox in the Conqueror, of which eight proved fatal. This disastrous epidemic had its commencement towards the close of the preceding year, and the following interesting special report upon it is by one of the medical officers* of the ship:—

"During the winter months of 1864, and in the months of January 1865,

* Assistant Surgeon Henry Hadlow.

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1865, an outbreak of small-pox took place on board Her Majesty's Ship Conqueror lying at Yokohama, Japan, during which a great number of the ship's company were attacked, and many died.

"Small-pox is traditionally believed to have appeared in Japan 1,000 years ago. How universally it prevails, and how little it is regarded by the native population, can be estimated in a short walk through the settlement. Every adult Japanese is deeply scarred, mothers and nurses will be met with carrying infants in all stages of the disease, and apparently indifferent to their sufferings and their power of communicating contagion. Children play about the streets careless of the pustules with which they are spotted, and working men often pursue laborious occupations whilst covered with a mask of scabs. With a population unprotected by vaccination, and the disease poison constantly present, and so heedlessly exposed, few can hope to escape infection. The majority of the cases occur in the first year of life; almost all the Japanese have contracted the disease before reaching the age of seven; and the proportion of those who escape altogether is so small, that the native doctor from whom our facts were derived, said graphically 'they could be counted on the fingers.' He considered that about 30 per cent. of the attacked died, a number that corresponds tolerably with the cases observed in some recorded epidemics amongst unprotected populations; so that even allowing a much wider margin for those who escape the disease altogether than our informant was inclined to do, more than a fourth of the infants born perish from small-pox alone, and in the majority of the cases in the first year. Happily a new era is now commencing, renewed intercourse with Europeans has introduced vaccination into the country, and if no other good were to accrue from contact with western civilization, Japan would have ample reason to be thankful for the enterprise that brought the resources of our science to her shores. A knowledge of the operation, a thorough belief in its protecting power, and a willingness and desire even to submit to its performance, have extended amongst all classes. The Daimio of Nambu, for instance, has not only had the operation performed on himself and family, but sent his own physician to Yokohama, expressly to learn from the European surgeons there the proper mode of vaccinating, the characters of the vaccine vesicle, and the necessity that exists for repeating the operation. At present Yeddo, the capital, is the centre of the movement, and about fifty cases a day are vaccinated at the school of foreign medicine. It is also in practice in other places, and although not fully understood, and with many failures, attributed by our informant to bad matter, it has already asserted its powers, and wherever it has made any progress, the population has shown a marked and decided increase. The above fragments of information on this very interesting subject were furnished by Satô, a doctor of Sakura, and a retainer of Hotta-Bicchin-no-Kami, at the time staying in Yokohama, and I was enabled to obtain them through the kindness of the medical officer of Her Majesty's Legation.

TABLE, No. 1.

SHOWING the Daily Progress of the Epidemic, the Disposal of the Cases, and their Termination.

DATE.	Added to the List.	Sent to Hospital.	Dead, On Board.	Dead, In Hospital.	To Duty.	Returned from Hospital.
1864:						
Nov. 26	1	1	–	–	–	–
Dec. 2	–	–	–	1	–	–
„ 4	1	–	–	–	–	–
„ 5	1	–	–	–	–	–
„ 6	–	2	–	–	–	–
„ 15	1	–	–	–	–	–
„ 17	–	1	–	–	–	–
„ 18	1	–	–	–	–	–
„ 20	–	1	–	–	–	–
1865:						
Jan. 1	1	–	–	–	–	–
„ 5	2	1	–	–	–	1
„ 6	2	–	–	–	–	–
„ 7	6	3	–	–	–	–
„ 8	8	1	–	–	–	–
„ 9	7	6	1	–	–	–
„ 10	7	8	–	1	–	–
„ 11	3	6	–	–	–	–
„ 12	–	3	–	–	–	–
1865:						
Jan. 13	1	–	–	–	–	–
„ 14	2	4	–	–	–	–
„ 15	–	–	–	1	3	–
„ 16	–	2	–	1	–	–
„ 17	–	–	–	1	–	–
„ 18	1	–	–	–	1	–
„ 19	–	–	–	1	–	–
„ 20	1	–	–	–	–	–
„ 21	3	–	–	1	–	–
„ 22	1	–	–	–	–	–
„ 23	–	4	–	–	–	–
„ 24	3	2	–	–	–	1
„ 25	1	3	–	–	–	2
„ 26	2	2	–	–	–	–
„ 27	1	2	–	–	–	–
„ 28	3	–	–	–	–	–
„ 29	3	5	–	1	–	–
„ 30	1	1	–	–	–	–
Feb. 1	–	1	–	–	–	–
„ 6	–	–	–	–	–	7
1865:						
Feb. 9	–	–	–	–	–	1
„ 12	–	–	–	–	–	3
„ 13	–	–	–	–	–	4
„ 16	–	–	–	–	–	1
„ 19	–	–	–	–	–	1
„ 20	–	–	–	–	–	4
„ 22	–	–	–	–	–	2
„ 24	–	–	–	–	–	3
„ 25	–	–	–	–	–	1
„ 27	–	–	–	–	–	2
„ 28	–	–	–	–	–	7
Mar. 9	–	–	–	–	–	2
„ 10	–	–	–	–	–	2
„ 11	–	–	–	–	–	1
„ 29	–	–	–	–	–	1
„ 31	–	–	–	–	–	1
Apr. 2	–	–	–	–	–	2
„ 10	–	–	–	–	–	1
May 5	–	–	–	–	–	1
Totals -	64	59	1	8	4	51

" Leave was freely granted to the ship's company at Yokohama, general at intervals, special and privileged every week; but it was not amongst the men that were thus constantly on shore, and usually spending great portions of their time amongst the crowded and infected portions of the native town, that the disease first appeared on board the Conqueror, but in the person of a man who had been on the sick-list since the 31st of August 1864, with diarrhœal dysentery and climatic cachexia. He had not been on shore for nearly three months; it is doubtful if he had sufficient strength to reach the bumboat; he lived almost entirely in the sick berth, taking a little exercise on the main deck or forecastle on fine days, and holding very little communication with the rest of the ship's company. Yet, on the 24th of November 1864, he presented the premonitory symptoms; on the 26th his face was bloated and suffused, his eyes closed, he was delirious, and on examination he was found to have the deep red roseolar rash that often precedes a severe confluent

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attack of variola. He was immediately sent to hospital, and died there, on the 2nd of December, with the disease fully developed. The next case that appeared was in the person of a gun-room officer. This young gentleman had been confined to bed for fifteen days with a sprained ankle, and during that time had only held casual communication with his messmates, and none at all with the ship's company. It is quite possible that the infection may have been conveyed to this patient by the sick-bay man, or by one of the medical officers who were for three days in attendance on the previous case before its character manifested itself, and consequently adopted no precautions to prevent such an accident. Next day another was placed on the list, again an individual who had not been out of the ship for nearly five weeks. On the 15th of December a case appeared in No. 9 mess, and proved very severe, and ultimately fatal; and on the 18th the sick-berth attendant, who had of course been brought into frequent contact with these cases, but who had had variola previously, was attacked. All these cases were sent to hospital directly they were recognised, and as no more appeared during the remainder of the month, a period of thirteen days, it was hoped that the immediate segregation of the cases, which the clear main deck enabled us to do very effectually, and their prompt transmission to hospital, had prevented the dissemination of the infection. Unfortunately it proved otherwise, and the period of quiescence was occupied by the disease spreading silently amongst the ship's company, to appear next month as an epidemic scattered over all parts of the vessel. On the 1st of January 1865, a boy presented himself with obscurely suspicious symptoms. He had been employed as a nurse for the previous cases, from the fact of his being already deeply pitted with the marks of small-pox. After the last case went to the hospital (20th of December), he was allowed, after washing everything he had worn whilst acting as nurse, and taking a bath, to return to duty. His former attack of the disease, however, did not secure his exemption on the present occasion. In him, supposing him to derive his disease from the last case, the period of incubation was eleven days, and from him the epidemic evidently takes a fresh starting-point under very suggestive conditions. The next two cases were placed on the list on the 5th of January; consequently, if they derived their infection from those sent to hospital in December, they must have had periods of incubation of sixteen days each, and then received it from men strictly segregated. If, on the other hand, they contracted it from this boy, it must have been whilst the disease was quite in its earliest stage, if not whilst it was actually latent. Unquestionably it was chiefly amongst the boys of the ship with whom this boy was associated at school, and in most of their labours and pleasures, that the disease extended on the lower deck. Between the 1st and 8th of January, eight cases appeared among the boys, and only two amongst the adult members of the blue jackets' messes, who outnumber the boys more than fivefold. This dissemination of the disease amongst a class explains the apparent inconsistency of that portion of the following Table (Table, No. 2) that has reference to these dates.

TABLE,

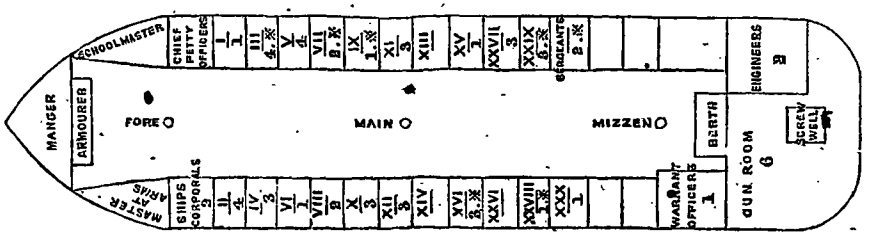
TABLE, No. 2.

SHOWING the Date of Appearance and Distribution of the Cases in the different Messes. Deaths are indicated by Asterisks.

DATE.	MESS.																												
	Ward Room.	Gun Room.	Engineers.	Warrant Officers.	Chief Petty Officers.	Ship's Corporals.	Serjeants.	Sick Mess.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	26.	27.	28.	29.	30.
1864:																													
Nov. 26	-	-	-	-	-	-	-	1*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec. 4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
„ 5	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
„ 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1*	-	-	-	-	-	-	-	-	-	-	-	-
„ 18	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1865:																													
Jan. 1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
„ 5	-	-	-	-	-	-	1*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
„ 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1*	-	-	1	-	-	-	-	-	-	1*	-	-
„ 7	1	-	-	1	-	-	-	1	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
„ 8	-	-	1	-	-	-	1*	-	-	1	1	1	-	-	1*	-	-	-	1	-	-	-	-	1*	-	-	-	1	1
„ 9	-	2	1	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-	1	-	-	-	-	-
„ 10	1*	1	-	-	-	-	-	2*	-	-	1*	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-
„ 11	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
„ 13	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
„ 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-
„ 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
„ 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1*	-
„ 21	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-
„ 22	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
„ 24	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-
„ 25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
„ 26	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
„ 27	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
„ 28	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
„ 29	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
„ 30	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Rough Plan of the Lower Deck, showing the relative position of the messes, and the number of cases of small-pox in each.

The numbers of the messes are shown in Roman figures, the number of attacks in each mess in Arabic numerals, and of deaths by asterisks.



In the sick mess on the main deck forward there were six attacks and two deaths, and in the wardroom on the main deck aft, two attacks.

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"This Table is constructed to show the distribution of the disease in the ship, and the dates at which the cases made their appearance in the respective messes, and it will be seen that amongst the first sixteen attacks three were in men using the sick mess, but the other thirteen were scattered without any regularity through the ship, no two appearing in the same mess. After the 7th of January, however, the disease will be found to follow its ordinary course, and extend from person to person amongst those most associated together. Between the 8th and 11th three cases appeared in No 3 mess; two in No. 7; two in No. 11 mess; four amongst the officers of the gun-room; the tendency to localisation being apparent throughout the rest of the Table. I have also added a rough plan of the lower deck, showing the relative position of the messes, and the number of cases and deaths.

"The total number of cases that appeared during the period of the epidemic was sixty-four, which, taking the number on board on the 1st of January, viz. 459, of all ranks, gives a proportion of 135·9 per 1,000 of the ship's company attacked; a number that; common as the disease is on the China Station, is in great excess for a malady so properly classed amongst preventible diseases as small-pox.

"The following Table gives the distribution of the disease amongst the various classes on board, and the number of attacks and deaths, reduced to a common standard for comparison:—

TABLE III.

RANK.		Number on Board, 1 January 1865.	Number of Cases of Variola.	Number of Deaths.	Proportion per 1,000 Of Attacks.	Proportion per 1,000 Of Deaths to Numbers.	Proportion per 1,000 Of Deaths to Attacks.
Officers	Under 20 Years	14	5				
	Over 20 Years	29	4	9	209·3	–	
		43					
Seamen, &c.		270	29	4	107·4	14·8	137·9 (Including Officers over 20) 121·2
Boys		53	16	2	301·8	37·7	125· (Including Officers under 20) 95·2
Marines		93	10	3	107·5	32·2	300·
	TOTAL	459	64	9			

"In the above statement, no column is attached for the condition of the vaccination marks in those attacked, our records of this not being quite complete; all are supposed to have been protected, doubt being expressed in only one case, and that proving a modified one. In forty-three, the vaccination marks were good, and in seven

seven they were absent altogether, or very imperfect. The number of secondary attacks has been remarkable: three nurses, and one of the hospital boat's crew, all of whom were selected from men bearing distinct marks of having had the disease before, were attacked, as well as two others, making a total of six, in whom the infection was received a second time, one case being rather severe, the remainder trifling.

"From Table III. it appears, that the largest proportion of attacks took place amongst the most youthful members of the ship's complement, the boys and young officers; a reason for this in the latter case will be referred to subsequently, and with regard to the boys, a probable explanation may be found in the circumstances that have been before detailed respecting the dissemination of the poison after the last case that appeared in December; but it appears highly suggestive that the proportion of deaths to attacks should be less in this than any other class, as indicating the protective influence of vaccination performed in infancy, over those in whom its powers have not become too far impaired by lapse of time since the operation was performed; even the two deaths that did occur were under conditions that remove them somewhat from the ordinary course. The first was attacked on the 15th of December, and death did not take place until the 16th of January, four weeks and three days after the accession, and was then, I am informed, accompanied by symptoms of advanced pulmonary disease. The second case was a weakly, puny boy, constantly ailing, and who had, about five weeks before, contracted inflammatory gonorrhœa and orchitis, for which he was under treatment at the time of receiving the infection, and by which his constitutional powers were so reduced that he died at the termination of the first week. Even taking these cases without any regard to their extenuating circumstances, the proportion of deaths to attacks is only 125 in the 1,000; or, if the young officers under twenty are included, only 95 per 1,000, a rate that compares favourably with the ship's company generally, and contrasts most vividly with that of the Marines. Notwithstanding the care with which all recruits for the Royal Marine Corps are examined for their vaccination marks at head-quarters, we find here the enormous mortality of thirty per cent. of those attacked, a rate as large as that of unprotected populations. Nothing can show more strongly the wisdom of the re-vaccination recommended by the medical officer of the Privy Council,* or suggest more forcibly the expediency

* In Prussia (just as in Wirtemberg) the practice of vaccination grew out of the knowledge that small-pox would ultimately attack a certain proportion of those who had been vaccinated only in infancy. This knowledge had been dearly purchased in the Prussian army, for during the ten years preceding 1831, cases of post-vaccinal small-pox were increasing in number and fatality; attacks were counted annually by many hundreds, and within the last three years, 1831–3, there had occurred no fewer than 312 deaths from small-pox. For the last twenty years the Prussian army has represented an almost entirely vaccinated population, and what has been the contrast? 104 annual deaths by small-pox was the

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diency of enforcing its performance amongst bodies of valuable men, who are, from the nature of their service, frequently exposed to the infection of places like this, where the disease flourishes unchecked amongst an unprotected population. I may be permitted to observe here, that I believe vaccination gains by centralization, and that, as a rule, the operation is more satisfactorily performed in institutions than by individual practitioners. In the one instance, from the number of cases done, the supply of fresh lymph is constant, and the power of selection practically unlimited, whilst the private operator is often driven to use matter that he would reject if he had any choice; and this particularly applies to surgeons of ships, whose original supply of matter depends a great deal on chance, and who are obliged to continue their series of operations from the imperfect, and, I believe, often unprotective results of secondary vaccination.

Although the youth of the subject, or the recency and efficiency with which vaccination has been performed, has doubtless far the largest share in determining the severity of the attack, circumstances have not been wanting during the past epidemic that would appear to intimate, that there may be degrees of the variolous poison, and that the individual proclivity being alike in both instances, a more formidable accession of the disease may follow infection derived from a severe case than from a mild one. This appears in opposition to the received zymotic theory, but the following facts do not seem to admit of any other interpretation: the first man attacked among the Marines was a serjeant, his case proved confluent, very severe, and fatal on the sixth day. The next that appeared was even more rapidly deadly, the man dying on board with malignant symptoms, contemporaneously with the appearance of the eruption. Amongst the few next cases that manifested themselves in the same (Marines) messes, two were very severe, barely escaping with life, and another was fatal on the fifth day. There is also some reason to believe that one of the fatal cases amongst the boys contracted the disease from the serjeant.

As a converse illustration, we may take the officers of the gun-room: the first case that appeared amongst them was in the person of a master's assistant; he was, however, confined to a cabin with a sprained foot before the disease manifested itself, not using the gun-room, and holding very slight communication with his messmates; no dissemination of contagion can be traced to him. The next case was a clerk's assistant; with him, after a few days of indisposition of a very slight nature, a few spots appeared about the chest and arms, sparing the face, and assuming the minute vesicular look from the first. As a sporadic case, from the trifling nature of the constitutional disturbance, the preference displayed by the eruption for the trunk, and its appearance, it would doubtless be considered varicella, but the circumstance of small-pox prevailing in the ship can leave no doubt as to its true character. During his slight premonitory

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last experience of the former system, two annual deaths has been the average for the re-vaccinated army.—Papers relating to the History and Practice of Vaccination, 1857, p. xxxv.

monitory indisposition, this young gentleman used the gun-room, and mixed with his messmates, and the result was, that three more cases very shortly appeared, two of them precisely similar, and one of very little more importance. A fifth case put on the list about the same time from amongst the gun-room officers, from the absence of anything distinctive, was returned as catarrh, although the circumstances of the attack, duration of it, and condition of the throat, gave us some reason to suspect that it was of a similar, but even more trifling, nature.

"Attacks of this kind were numerous. During the month of January alone, forty cases were entered on the list for catarrh, febrile affections of no great severity, generally accompanied by some soreness of throat, these symptoms passing off in from three to six days without any eruption on the skin making its appearance. It is probable that a large proportion of these were really 'variolous fever,' a modification of the exanthem that has been recognised by many recent observers.

"The mean duration of the cases that terminated in recovery is 38·6 days; of the few very slight cases treated on board, 6·5 days. Of the cases that terminated in death, one proved fatal on the fourth day; two on the sixth; one on the seventh; one on the ninth; one on the tenth; two on the twelfth, and one on the thirty-first day, with indications of pulmonary disease as the most prominent symptoms.

"It is unnecessary to refer here to the individual cases. Except in two instances they presented nothing remarkable. Of these the first was accompanied by malignant symptoms, sordes about the lips and gums; tongue dry, fissured, coated, and protruded with difficulty; purging of thin sanious matter; extreme depression, and the appearance of an anomalous-looking dusky eruption thickly about the chest and abdomen. There was no disturbance of the sensorium, and he spoke and answered questions with intelligence shortly before death. The second case resembled some that have been described before—a copious eruption of urticaria preceding the variolous papules.

"In two cases acute rheumatism came on during convalescence, and one of these was ultimately invalided. Large and tedious boils were the ordinary sequelæ.

"Re-vaccination of the ship's company was extensively tried, but although several supplies of matter were obtained, and tried by all three medical officers, as in the Imperieuse in 1861,* not a single case proved successful."

There were two cases of small-pox in the Coquette, the disease having been contracted at Yokohama, but further than this no information is given in connection with them; and the same may be said of three cases of the modified form of the disease that occurred in the Leopard.

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* Statistical Report of the Health of the Navy for the year 1861, p. 172.

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There were nineteen cases of small-pox in the Marine battalion, sixteen of which occurred in the first fortnight of January, one in February, and two in April. With reference to these cases one of the medical officers* says:—

"The first month and quarter of the year was remarkable for the prevalence of variola, which was alluded to as making its appearance in the garrison and fleet at the close of the previous year. During the month of January it was very prevalent, sixteen cases occurring in the battalion between the 1st and 14th, all of which, with the exception of three, were sent to the general hospital; the remaining three were treated in the hospital marquee, the hospital being crowded.

"The disease was evidently caught in 'Japanese Town,' which the men always frequented, and where the disease was known to be raging. It did not prove fatal to any of our men who had all been vaccinated, although a good many of those from the fleet died. The weather was cold, dry, and frosty; the cases were generally sent after the eruption had appeared, and had to be carried from the landing place to the hospital, a distance of a mile, after a quarter of an hour's pull from the ship, thus getting into the hospital chilled. Our men had only to be sent a short distance, and were always sent with their own blankets and bedding.

"At the beginning of the month, when the epidemic was at its height, our men, with those of the 2-20th Regiment, were prohibited from entering 'Japanese Town,' sentries being placed at the different entrances to enforce the order. The Japanese houses in which the disease prevailed were, by order of the Japanese authorities, distinguished by having a red and white straw rope hung in front. The result of the above precautions was, that no fresh cases occurred between the 16th and 31st. . . . . Small-pox prevails to a great extent in Japan, the mortality among the natives being 25 per cent. The Japanese have recently become alive to the importance of vaccination, and have a vaccine establishment at Yeddo. To its severity, want of precaution, and of proper care and attention to those affected with the disease, may be attributed the number of blind met with in Japan, the great majority of whom are pitted with small-pox.

"At the commencement of the epidemic, some lymph was obtained from a civil practitioner, with which eleven of the officers were re-vaccinated. Of these only three proved successful, and they only indifferently, so that none could be procured for the battalion generally.

"The disease could not be traced from one individual to another, nor was it confined to particular huts. Crowds of Japanese were constantly moving about the camp, chiefly frequenting the officers' quarters, selling curiosities, &c. When our men were prevented entering

* Assistant Surgeon Angus Robertson.

entering Japanese Town, the Japanese were allowed to enter the camp as before. Still the epidemic abated after the steps referred to above were taken to stop it, no case occurring after the 16th of January, though sixteen had occurred during the previous fifteen days of that month. One case occurred in February, none in March, the two last in April. During the whole time one officer only was attacked.

That appears to have been a very serious case, however, the disease having assumed the confluent form, and being complicated with ophthalmia.

There were two cases of small-pox in the Osprey. The death from this disease, which appears in Table IV., in connection with this vessel, has reference to an officer who contracted the disease and was sent to hospital at the close of the previous year; he died on the 2nd of January. The two cases that occurred during the present year had their origin from that case in all probability; one being in the person of an officer whose cabin was next to that of the officer who died, and the other in a Marine who had been servant to the first-mentioned officer; both had vaccine cicatrices. One of the patients had been successfully vaccinated a few months previously, and in him the disease assumed a very mild form.

There was a single case of small-pox in the Rifleman. The disease was contracted at Hong Kong in the Lady quarter of the year, and proved mild. The man had a well-marked vaccine cicatrix.

There were fourteen cases of small-pox in the Severn, of which one proved fatal. The history of this epidemic is thus given by the surgeon* of the ship:—

"The opening of the year found the Severn moored in company with rather a large squadron of our own, and of men-of-war of different nations, French, Russian, Dutch, &c., off the settlement of Yokohama, in Japan, she having anchored there on the 28th of November 1864, and remained in the same position. The ship's company, generally, were in remarkably good health, and were about to go on shore on general leave, when a case of small-pox appeared on board. This disease had been for some time rife on shore, and among some of the foreign men-of-war, the French frigate "Semiramis" lying near us, having suffered severely from this cause. The first case appeared on board this ship on the 3rd of January, and was followed by others in rapid succession throughout the month of

* Surgeon Henry Loney.

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of January, and up to the 6th of February, at which date the number of cases admitted amounted to thirteen. The epidemic then ceased on board for a considerable interval until the 21st of March, when a solitary and final case occurred on board, making in all four officers and ten men affected with the disorder. All these, as soon as the nature of their malady declared itself, were sent for treatment to the buildings erected as temporary small-pox hospitals on shore, which were wooden huts situated on a bluff of high land overlooking the settlement of Yokohama. A special boat's crew, who all bore certain traces of having had small-pox before, were selected from among the ship's company for this particular duty. Those among the sick on board who presented suspicious febrile symptoms, were kept under a screen separate from the rest of the ship's company, until it was fairly ascertained with what disorder they were affected. The Severn, together with Her Majesty's ship Conqueror, then affected more severely than ourselves, were, by order of the Commander-in-Chief, placed in quarantine with respect to the rest of the shipping in port. The ship's company were medically inspected, and vaccination performed on such as did not show good marks, the vaccine used being some procured at Yeddo. As the same process had been gone through at Bombay about twelve months previously, on the occasion of small-pox appearing on board at that place, few, except among a draft of boys lately sent out overland to join the ship, and some others of the crew that had entered within the twelve months, required re-vaccination. The patients affected with small pox, after being conveyed on shore to the civil or military small-pox hospital, as there happened to be room for them in either establishment, were left under the care of the officers appointed for that purpose, who were the surgeon to the British Legation, and an assistant-surgeon of the 20th Regiment. Of the whole number of cases sent in, in the majority the disease was mild in character, and there were none that could fairly be called confluent, although in some the eruption appeared very thickly and closely together. The premonitory symptoms were, as usual, nausea and vomiting, pain in the lumbar region, and weakness, and afterwards sore-throat and hoarseness, but not much salivation while they were on board the ship. In one man typhoid symptoms set in early; there was intense headache and cerebral disturbance, oppression of the chest and anxiety. This was the only case that terminated fatally, death taking place about the fourteenth day of his illness; but this man appeared to succumb more through sheer debility than from the violence of the disease.

Three of the small-pox patients suffered from rheumatism, and one from suppuration of the glands of the neck, as sequelæ of the disorder; the rest made good recoveries. The list of those affected with the epidemic comprises four leading seamen and petty officers, three able seamen, one ordinary seaman, three midshipmen and masters' assistants, one boatswain, and two marines. No officer of ward-room rank was attacked, nor did any particular mess or part of the ship appear to suffer more than another. Contemporary with this epidemic there were several cases of fever of different degrees of

severity,

severity, the cases of which were put on the sick-list, and entered as remittent fever, but they all at first presented similar symptoms to the sufferers from small-pox, and the disorder appeared to depend upon the same exciting cause; yet, as far as could be discovered, no eruption appeared on any part of their bodies. This variolous fever was also noticed on board Her Majesty's ship Conqueror at the same time. These were treated on board with quinine and stimulants, with good support, and all returned to duty after somewhat tardy convalescence."

It is to be regretted that in no instance in any of the cases that occurred in this epidemic is any reference made as to whether the patient had been previously vaccinated or not. It is to be presumed, however, that they had undergone that operation twelve months previously, as referred to above.

Diseases of the Brain and Nervous System.—There was an increase in the ratio of cases coming under this head, as compared with the preceding year, equal to 7·2 per 1,000. There was also a great increase in the death-rate, but the ratio of invaliding was precisely the same as in 1864.

Twenty cases of apoplexy are entered on Table I. as having been under treatment during the year, of which four terminated fatally. The great majority of these cases were more or less severe forms of insolation. Of the fatal cases one was the result of heat apoplexy, and occurred in the person of a stoker of the Perseus, who, it is stated, had been overworked in the stokehold, where the temperature ranged from 130° to 150°. The other, a case of serous apoplexy, occurred in the person of an officer of the Coquette, who had been ailing for a day or two previously.

There were twenty-four cases of delirium tremens in the squadron, of which five occurred in the persons of quarter-deck officers; three in warrant officers; one in a petty officer; two in able seamen; two in stokers; one in a bandsman; two in non-commissioned officers of marines, and seven in private marines. In one instance the rating of the person affected has not been obtained.

Diseases of the Organs of Respiration.—The ratio of cases coming under this head shows a very trifling increase, as compared with the preceding year; there is also a slight increase in the ratios of invaliding and of mortality.

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Diseases of the Heart and Bloodvessels.—The ratio of cases coming under this head is almost precisely the same as in the preceding year; but the invaliding and death-rates are much lower.

There were three deaths from disease of the heart, two of which occurred in the Royal Marine Battalion in Japan. One of these cases occurred in the person of a private who had been on the sick-list on previous occasions with marked symptoms of organic disease of the heart. On the last occasion on which he was placed on the sick-list, he lingered for a month before the fatal event took place. Latterly he complained most of dyspnœa, amounting to orthopnœa, and of distressing cough. Œdema, commencing at the feet, ascended to the abdomen. Occasional bruit accompanied the first sound of the heart, the action of which was unusually extensive, and the lungs were emphysematous. The pulse was imperceptible for three days before death; the conjunctivæ were jaundiced. Cold extremities and delirium preceded death. On post-mortem examination the body is said to have been anæmic; the lower extremities and belly œdematous. A large quantity of fluid tinged with bile occupied the peritoneum and pericardium. The heart was much enlarged, friable, full of clotted blood, or recent bile-tinged lymph; there was atheromatous, but not ossific deposit, over the whole interior of this organ. The liver presented an advanced "nutmeg" appearance; the gall bladder was distended. The spleen was congested and soft; the kidneys enlarged, soft, and friable, but not otherwise diseased. The capsule detached readily. The man is said to have been of intemperate habits.

The other fatal case in this force occurred also in the person of a private, after the battalion had re-embarked for England. Shortly after the ship left Japan this man complained in the morning of being unwell, but did not apply for medical advice. Within an hour afterwards he suddenly expired. He was reputed to have been of temperate habits, particularly healthy, and proud of his capabilities of physical endurance. On post-mortem examination of the body, the heart was found to be of the natural size, but loaded with fat at its base, and soft and flabby throughout, particularly in the walls of the right ventricle, the posterior of which was also much attenuated, and its columnæ carnæ much enlarged. One of the aortic semilunar valves

was

was roughened by deposit. The liver was much enlarged, but its structure appeared healthy.

A seaman of the Princess Royal died in the General Hospital at Singapore of heart disease; but little information of a useful nature has been obtained with reference to his case.

Diseases of the Alimentary Canal.—There are considerable reductions in the different ratios coming under this head, as compared with the previous year. In the ratio of cases the reduction is equal to 33·1 per 1,000; in the ratio of invaliding to 2·5; and in the death-rate to 2·1. Happily these reductions are attributable to the comparatively few cases of dysentery which were under treatment, by which the increased mortality occasioned by the greater prevalence of cholera was more than compensated for. One hundred and two cases of dysentery were under treatment in the squadron during the year, of which twenty-seven were invalided and fifteen died. The average duration of each case on board-ship and in hospital was about thirty-seven days. Eight hundred and eighty-one cases of diarrhœa were under treatment during the same period, of which ten were invalided and one died. The average duration of each of these cases on board ship and in hospital was a little over eight days.

The vessels that appear to have suffered most from these affections were the Adventure, Argus, Conqueror, Cormorant, and Pelorus.

There were eight cases of dysentery and seventy-six of diarrhœa in the Adventure. Very little information is given in connection with them, but the great majority of them appeared when the vessel was employed in China.

In the Argus there was a single case of dysentery, and 119 of diarrhœa. The case of dysentery and ninety-six of the cases of diarrhœa occurred in the Michaelmas quarter of the year, when the vessel was at Shanghai. With reference to them the surgeon* says:—

"The greater number of the cases of disease of the bowels occurred at Shanghai, towards the end of the summer. Fortunately, but one case of dysentery appeared. The patient had been living on shore, as corporal in charge of a party of marines on duty at the Naval Yard.

* Surgeon T. B. Purchas.

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Yard. When seen, he stated that he had been suffering from severe purging for some days, but had made no complaint. He was taken on board immediately, and subsequently sent to the Naval Hospital at Yokohama, where he died. No fatal case of diarrhœa occurred, but the disease was of a very severe and intractable nature, resisting the astringents usually employed. It generally set in with severe cramps in the abdomen, and frequent purging, the stools being always feculent. Vomiting was not a frequent symptom. The cramps were most readily relieved by chloric æther and opium with brandy, after which the treatment had to be frequently changed before the purging finally ceased. During the months of May and June large quantities of rain fell; at this time there were several cases of mild continued fever, and but little diarrhœa. In July there was much less rain, and the sun was very powerful and scorching during the day, the nights being damp and chilly. The number of cases of diarrhœa then rapidly increased. At no time was the river water used, condensed water being always employed both for cooking and drinking purposes. The water of the Wangpoo River at Shanghai has been often thought to be the cause of cholera and diarrhœa, and no doubt justly so, as it must contain the sewage of several Chinese cities. I was therefore urgent in recommending that condensed water should only be used on board."

In the Conqueror there were nineteen cases of dysentery and 143 of diarrhœa. The majority occurred during the Michaelmas and Christmas quarters of the year, and the acting-surgeon makes the following remarks upon them :—

"Alvine flux has occupied a prominent and important position during the whole period of this Return; advancing from a mean of 2·7 men daily sick in June, to 4·3 in the quarter ending on the 30th of September, with eighty-six attacks during the period; and reaching its maximum of 8·4 daily sick throughout the last three months, although the admissions fell to fifty-one. Diarrhœa commenced in June. In July it prevailed extensively, forty-seven cases being added to the list during the month; many of them active, and accompanied by vomiting and cramps. In August the disease began to decline, twenty-five cases presented themselves, and in September fourteen only. All these, even those which appeared most severe at the outset, proved short and tractable, yielding easily to treatment, and returning to duty after an average period of four or five days on the list, two only of the whole number extending to eleven days. There was only one exception to this favourable result, a stoker. He was placed on the list with diarrhœa of some days' duration, shortly after the typhoon of the first week in September, during which the ship's company had been working continuously for thirty-six hours, wet through, without a dry place to lie down on, and with no food beyond a mouthful of raw pork or biscuit, snatched in an interval of exhausting labour. That neglected diarrhœa should become dysenteric in character under such circumstances is not wonderful; still, the case was slight, and on arrival

arrival at Hong Kong he was sent to hospital. Another slight case of dysenteric looseness existed in the ship, in the person of a seaman who was sent to sick quarters at Yokohama with ulcer in May, and returned on board in August with the ulcer open, deeply-marked jaundice, and dysenteric diarrhœa. This case was also sent to the Melville during the refit of the Conqueror.

"Whilst at Hong Kong, a period of twenty-two days, although the men were working hard, and unavoidably exposed to the sun on board and at the dockyard, ten cases of diarrhœa only were placed on the list, and all these were of the same simple, tractable nature as those which appeared in the earlier part of the year, the longest only being on the list for four days. On the evening of the 7th of October, the sick of the ship returned from the Melville, and the invalids for passage home were received on board. Amongst the former were the two cases of dysenteric looseness originally sent, and one other, a seaman who had contracted the disease in hospital. Amongst the latter were a large number of dysenteric patients, several severe cases, and requiring cots. The disease was consequently imported into a ship perfectly free from it on the 7th of October. Next morning two cases were entered on the sick-list for diarrhœa. One of these was fortunate enough to remain so, and recovered in four days; the other degenerated into a severe attack of acute dysentery, and proved fatal in eleven days; and, from this time, the character of the alvine flux prevailing in the ship changed entirely, the simple, tractable diarrhœa disappeared, and every attack of looseness that presented itself during the remainder of the month was unequivocal, and generally severe, dysentery. In November eight cases of undoubted, but rather less severe, dysentery originated, and ten were entered as diarrhœa, although they had nothing but the name in common with the simple, docile cases of the previous months; but required periods of treatment extending to thirteen, fifteen, and nineteen days, and subsequent exemption from night dews and exposure, to obviate the constant tendency to relapse that was a prominent symptom. During December a single fresh case of slight dysentery originated in an invalid, and there were a few relapses in the cold weather about the Cape, but the alteration of climate and drier air had a beneficial effect, and by the end of the year the two original cases, then in a chronic state, were the only ones remaining on the list, and the fresh attacks of looseness that appeared were simple and manageable.

"The whole of the circumstances attending the appearance of the disease in the Conqueror, are strikingly analogous to those under which it attacked the ship's company in August 1864. And as, it is to be hoped, it does not often fall to the lot of one ship to furnish two examples of the contagious nature of dysentery in a short commission, it may not be out of place to recapitulate the records of the previous year, here. The Conqueror arrived at Yokohama in May 1864, and the battalion of Royal Marine Light Infantry was landed on the 7th of June. They were encamped under the ordinary single tents, without flooring, on a piece of ground that was under cultivation when we arrived, and from which the crop was hastily grubbed, leaving a deep bed of humus saturated with the concen-

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trated dressings of human manure, with which the Japanese force all their vegetation. Here one is reminded of the outbreak of dysentery at the Cumberland and Westmoreland Asylum in 1864, from the effluvia of a field irrigated by sewerage. Notwithstanding the deodorizing powers of soil, anyone who has been to China or Japan will bring away a vivid recollection of the stench of fields manured thus.

"There were heavy rains and prevailing damp in June, followed by a hot sun in July; the men, after a long confinement on board ship, enjoyed a great deal of liberty. After many months of enforced temperance, they were placed in a position to obtain an unwholesome native spirit, Sakki, in unlimited quantities; and, after the monotony of a sea-dietary, they were surrounded by fruits in the immature, unripe state in which they were always to be found in the markets of Japan. Under these circumstances dysentery broke out, and, in a few weeks, a fourth of the battalion was prostrated; and, on the 12th of July, thirty bad cases were sent on board the Conqueror for treatment, and the main-deck converted into a temporary hospital. At this time there was no dysentery in the ship, squadron, or amongst the residents on shore. Six days after the patients from the camp were received on board, a case of dysentery originated amongst the ship's company, and from this time they continued to appear, twenty-two cases being entered through the autumn, and three terminating fatally. At the same time specific intractable diarrhœa prevailed extensively, and is described in my assistant-surgeon's journal of August as dysentery, with its most severe symptoms undeveloped. During the same month reference is made to the number of attacks that originated in men attending the bay for trifling cuts and wounds; at least twelve being stated to have acquired alvine flux whilst thus brought into temporary contact with the sick occupying it. Yet, in this outbreak of the disease, it may be argued with great show of probability, that the same change of climate or air, the same quality of drinking water, or miasmatic influence, that produced dysentery in the battalion might equally induce the malady amongst the similarly unacclimatised ship's company, especially as, from the leave given, these had great opportunities for indulgence in unwholesome food and drink on shore. It may be advanced that both bodies of men were suffering equally from a deprivation of fresh vegetable food during a long voyage; that both had their capacity for resisting a disease-influence reduced by confinement on board ship; and that, on arrival in an unaccustomed climate, where there are conditions to favour the production of the dysenteric poison, it would naturally tend to appear, and that consequently the supposed introduction of infection from without is not at all necessary to explain the development of the affection on board. These objections to the theory of infection, however, only refer to the year 1864. A further examination of the circumstances of the present outbreak shows that they are inapplicable to it. When the sick and invalids were received on board at Hong Kong, the men affected with dysentery that belonged to the ship were placed in the sick-bay, and the severe cases among the invalids were congregated together on the after-part of the starboard side of the lower

lower deck. They were provided with their own conveniences, and kept as far as possible from the ship's company. Infection consequently existed in two places in the ship; one in the sick-bay, and one on the lower deck; and it was distinctly from these that the disease spread. In the sick-bay two men contracted severe attacks, whilst confined there with trifling open sores, and the whole of the remaining cases, sixteen in all, orginated on the lower deck, not a single case appearing amongst the battalion of R. M. Light Infantry, occupying the main deck, and who were under precisely similar circumstances of water-supply, diet, climate, work, and conditions of life generally, as the crew, and who only differed from them in not having the infection brought amongst them. The disease was not epidemic, it was distinctly endemic; it did not attack the whole community, but only sections of it, brought into immediate contact with men already suffering; and this local and non-diffusive tendency of the disease-influence completes the points of resemblance between the present outbreak and that of 1864, in which the disproportionate number of attacks that appeared amongst men attending the sick-bay for other affections is particularly noted. During both the months (October and November) in which the disease prevailed, the weather was almost uniformly fine; the lower deck ports rarely required to be barred in; the most assiduous attention was paid to the ventilation, to sprinkling the deck with chloride of zinc, and exposing the same deodorant on wetted hammocks, whenever there was any perceptible closeness. But it is, I believe, to the happy accident of prevailing light winds and smooth seas that we may attribute the light visitation with which the ship escaped. In all, twenty-one cases were treated. Three, returned from the Melville; seventeen originated among the ship's company, and one in a military prisoner; and of these one terminated fatally. This is about the same proportional death-rate as obtained in the Chesapeake,* which ship similarly had dysentery on the voyage from the Straits of Sunda to the Cape, and lost two cases in forty-one attacks. This is a much more favourable result than is common in China, or than was reported in the previous year from Japan, when there were fifty-two cases and seven deaths, or rather less than one in seven terminated unfavourably.

"The treatment adopted was originally the ordinary one of small repeated doses of ipecacuan and opium, turpentine stupes, &c. It appeared to be productive of so little good, that mercurial treatment was subsequently tried, with much more satisfactory results. In one instance, which may be cited as an example, the man was originally treated with Pil. ipecac. c. opio, without its producing the slightest impression on the disease. He was losing strength rapidly, and vomiting had begun, when calomel treatment was commenced, and the system affected as rapidly as possible. The gums were touched in three days, with immediate relief to all the more severe symptoms, and he went on to a satisfactory convalescence. The same marked improvement in the symptoms, contemporaneously with

* Statistical Report of the Health of the Navy for the year 1861, p. 176.

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with the production of slight ptyalism, was observed in several other acute attacks, and this treatment was universally adopted in the later cases. In the chronic form the disease appeared to be most benefited by a combination of quinine, opium, and sulphate of iron, in pill."

There were eleven cases of dysentery and sixty-two of diarrhœa in the Cormorant. All the dysenteric cases occurred in the Michaelmas quarter of the year, the disease being contracted at Hong Kong; some of the cases were of great severity, six were sent to hospital, and eight ultimately invalided. The majority of the cases of diarrhœa occurred during the Midsummer, and earlier portions of the Michaelmas quarters, and were considered to be attributable to the great heat of the weather, to the free use of water of a more or less impure character, and to dietetic errors.

There were twenty-six cases of dysentery and sixty-three of diarrhœa in the Pelorus. These diseases made their appearance when the vessel was moored in the harbour of Amoy, in the Midsummer and Michaelmas quarters of the year. The average duration of each case of dysentery was about a fortnight, and of each case of diarrhœa, nine days. Two cases of dysentery terminated fatally, and one of dysentery and one of diarrhœa were invalided. With reference to these cases the surgeon* says—

"The cases of diarrhœa, which had increased towards the end of last quarter (Midsummer), became more numerous, and of a more severe type, many began to assume a dysenteric character, and new cases of dysentery began to present themselves and to increase in severity, but they rapidly ceased on the ship sailing from Amoy on the 20th of September. On the following day, the last severe case, and which terminated fatally, was entered on the sick-list."

The ship had been lying for a long period in a very unhealthy locality, where the most offensive odours were brought off by every light breeze from the shore; the temperature was very high, and had continued higher, and for a longer period, than for many years. The disease was prevailing on shore; the water used for drinking purposes was obtained from the shore, and the men, exhausted by the heat, drank it freely, so that every circumstance appears to have been favourable for an outbreak of dysentery. Considering all things, it is fortunate that more cases and more fatal results did not follow the long stay of this vessel in such a harbour as that of Amoy, extending, as it did, from the 1st of January to the 20th of September,

* Dr. Arthur M'Kenna.

September, with the exception of an interval of four days, when she went to sea for a cruise. Although the distance to the outer anchorage at Amoy is great and very inconvenient, there can be little question that in the Midsummer and Michaelmas quarters of year these drawbacks would be more than compensated for by the healthiness of the locality, and by the escape from the many pollutions of the harbour; and unless the exigencies of the public service call for a close anchorage to the town, the outer anchorage should, for sanitary reasons, always be selected in the hot season.

The following remarks upon Dysentery as it appears in Shanghai, by the medical officer* in charge of the hospital ship stationed there, are of interest.

"I am unable to state anything in addition to the remarks on this disease forwarded in the journals of previous years. It has remained as uniformly intractable and unmanageable as ever; it runs a fixed and determinate course, very much as if the action of remedies did not arrest or modify its progress. It produces the same unvarying mischief to the human frame year after year, preserving continuonsly the same persistent type, with unaltered virulence. This apparently independent and absolute progress of a disease towards recovery or death, in spite of remedial agents, appears to be a strong argument for placing the patient under the most favourable circumstances for recovery, by early removal from malarious influences.

"Much has been said of ipecacuan in the treatment of this disease, but my experience does not enable me to say much in its favour, either from want of success in its use or because the types of disease having the same designation vary in different climates. At present it appears to me that the free use of opium alone is the most promising and effective remedy, as a palliative, in the treatment of this most formidable malady.

I have tried, in several cases, the liquid extract of bael, a drug of Indian repute, but it has not produced, as far as I could perceive, any benefit. To the best of my judgment, the only treatment likely to succeed, after the existence of an ulcerated condition of the mucous membrane of the larger bowel and discharge of blood, is the use of opiates to maintain the bowel as much as possible in a state of quiescence, and the support of the strength by means of nutritious diet. At the same time a removal from the causes which produce and keep up in an aggravated state the original disease, would seem to be highly judicious, as likely to improve the general health, even if it could not directly act on the diseased bowel.

"The use of opium, however, although it is imperative, is unsatisfactory,

* Assistant-Surgeon G. W. J. Sutherland.

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factory, being a palliative only, and not calculated to act locally on the diseased mucous membrane. The system becomes after some time highly tolerant of this drug, many of the patients taking eight to ten grains a day for several successive weeks. Its beneficial effects in relieving pain are highly appreciated by the patients themselves.

"I am unable to state anything more positive as to the cause of dysentery than that it may originate from the combined action of heat, sameness of food, impure water, and malaria. Before being fully developed with ulcerated bowel, it seems to lie dormant in the system, commencing with diarrhœa, or following an attack of fever, with which, however, it is rarely concomitant. Prophylaxis:—Regularity of the bowels and a spare but varied diet, and the adoption of ordinary sanitary precautions appear to be the most rational prophylactic measures; but, when once the disease declares itself, a speedy removal from the influence of the causes which produced it, would, I believe, be highly beneficial."

Cholera.—There were twenty-one cases of cholera in the squadron during the year, of which fifteen proved fatal.

Two cases of cholera occurred in the Adventure in the month of June. The vessel had sailed from Hong Kong on the 25th of that month, and on the following morning a stoker was suddenly seized with choleraic symptoms of great severity. He was on duty when he became faint, sick, and was seized with intense pain in the abdomen, and cramps in the limbs. He was taken below to the hospital, and in five minutes afterwards his face had quite altered, having become livid and pinched; his knees were drawn up on his abdomen; his arms flexed rigidly; there was rice-water vomiting, with deadly coldness of the lower extremities, and his cries were piteous. The rapidity of the seizure and the effects were noteworthy; in half an hour he was cold all over; of a bluish livid colour, in great agony, and with the pulse failing. His breath was chilly and his tongue cold, and he became unconscious. By means of strong hot brandy-and-water, but especially by the use of chloroform in ten to fifteen minim doses every two hours, his pulse became fuller, warmth returned to the extremities, and he became sensible. The cramps at the same time passed away. The next morning another stoker was seized, but in a milder manner. The same treatment was adopted, with similar beneficial results.

There was a single and fatal case of cholera in the Coquette. The subject of it, a petty officer, was seized on the morning of the 17th of April, when the vessel was in dock at Whampoa,

poa, and the attack proved fatal in about seven hours. He had been suffering from the premonitory diarrhœa on the previous day, but appears to have taken no notice of it.

Only four cases appear as cholera in the returns from the Cormorant; but several cases of choleraic diarrhœa occurred at the same time, two of which proved fatal in the hospital at Hong Kong. This will explain the discrepancy which appears to exist under this head in Tables IV. and VI., where, in the former, there are five deaths, while in the latter there are only four cases. The disease appears to have been contracted at Manilla, and the following report of the outbreak is by the surgeon of the ship:—

"Of cholera we had four cases, contracted at Manilla, three of which proved fatal. We sailed from Hong Kong on the 15th of July, and anchored off Manilla on the 19th, where we remained until the 2nd of August. Previous to our arrival at Manilla they had had some very stormy and unfavourable weather; but during our stay it was unusually fine for that period of the year, and, although very warm, yet a most agreeable change from the enervating heat of Hong Kong. Towards evening we had generally very vivid and persistent lightning, and occasionally heavy thunderstorms; the atmosphere appeared to be in a highly electrical condition. Before our arrival the weather had been extremely warm, warmer than some residents ever recollected before; and cholera and dysentery prevailed to an alarming extent. The heat had then in great degree abated, and these diseases, though still extant, were chiefly limited to the poorer classes, who were obliged to make use of the river water. The want of pure water is sadly felt in Manilla, and the river 'Pasig' is supposed to be the chief means of rendering the place so unhealthy, being the great medium of disseminating the pabulum of zymotic disease. When leaving Hong Kong we had eight on the sick-list; three cases of diarrhœa, one of fever, and the remainder various.

"On the 26th of July we were supplied with water from Manilla. The water was supposed to be brought from a distance of seven miles up the river, the nearest point where good water could be procured; but the men engaged in collecting the water have sometimes it is said, saved themselves the trouble of the journey by filling their boats from the river at a shorter distance. However that may be, on the 1st of August the first case of cholera presented itself; on the 2nd, three cases of diarrhœa; on the 4th, two cases of cholera; on the 5th, three cases of diarrhœa; on the 6th, one of diarrhœa; on the 7th, one of diarrhœa and one of cholera; on the 9th, three of diarrhœa; and on the 10th, one of diarrhœa, after which the epidemic may be said to have died out. Throughout our stay at Manilla, there was no leave for the men, and but little communication with the shore, as the ship was lying at a considerable distance off. I cannot therefore help regarding the water as being the most probable means of introducing the above disease, and also

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of increasing the list of diarrhœa cases. Immediately on our arrival at Hong Kong, on the 7th of August, the use of the water was discontinued.

"With reference to the question as to the susceptibility to a second attack of cholera. We had four men on board who suffered from a very severe attack of cholera in 1863, at Shanghai, and on this occasion none of them were affected with cholera. In consequence of the very high sick-list (twenty daily), during the prevalence of the cholera, and the very limited number of ship's company, I was compelled to select nurses for the sick out of those already on the sick-list, and the following is a list of the attendants, viz.:—

"1. A marine. On sick-list with ulcer on leg. No cholera antecedents.

"2. One of the carpenter's crew. Convalescent from diarrhœa. No cholera antecedents.

"3. An ordinary seaman. On list with wounded finger. Had a severe attack of cholera at Shanghai in 1863.

"4. A marine. Convalescent from diarrhœa. No cholera antecedents.

"On the morning of the 7th of August, the man belonging to the carpenter's crew was seized with cholera, and died in the afternoon. On the same date the marine (No. 1) was attacked with diarrhœa and cramps, and sent to hospital, where he died from cholera on the 10th of August. In the case of the other marine (No. 4), the diarrhœa recurred on the 6th of August, and he was sent to hospital on the 9th, where he suffered from a severe attack of cholera, and died, from the debility consequent thereon, on the 24th of August.

"The only one who escaped was the ordinary seaman, and he had not a single bad symptom, although his attendance on the sick was constant. This would appear like an immunity from a second attack."

Whether one attack of cholera grants an immunity from a second, is an exceedingly interesting and important point in the history of that disease, and one upon which further information is greatly needed.

There were two cases of cholera in the Hesper, one of which proved fatal. Four cases of choleraic diarrhœa occurred at the same time. Very little information is given in connection with them. The medical officer* says:—

"An outbreak of choleraic diarrhœa, and spasmodic cholera, for they appear to be but two forms of the same disease, very recently occurred in this ship, coincident with part of our deck being taken up, and Chinamen from the shore coming on board to work. The disease confined itself to those who were at this particular work, and the two weakest individuals in the ship, who had been on the sick-list

* Assistant Surgeon A. Brend.

list with debilitating diseases for a week or two previously. The man who died at hospital had only lately joined this ship, and had not probably lived a very sober life just previously."

These cases occurred at Hong Kong in the Michaelmas quarter of the year, and with reference to them, and the cases received from the Cormorant into hospital, the deputy inspector general† of that establishment remarks :—

"Of the twelve cases of cholera eight were received from Her Majesty's ship Cormorant between the 4th and 15th of August, and four from Her Majesty's ship Hesper, between the 10th and 14th of September. The disease first appeared in the Cormorant when she was at sea on her way from Manilla here. The direct exciting cause was supposed to be the impure water supplied to the ship at Manilla, yet they had been drinking it for three weeks with impunity. Of the four cases which occurred in the Hesper, no assignable cause has been discovered. The water supplied to the ship's company was the same as that supplied to the other ships in harbour. Of the twelve cases, four were received in a state of complete collapse, and the course of these four has been as follows:— Two of them quickly rallied, violent dysentery supervened, and proved fatal; the other two are now in hospital, one of them in a state of great debility, but without any precise disease; the other, in a state of great exhaustion and emaciation, suffering from pneumonia of the right lung and hepatitis. In the only instance in which the cholera proved fatal '*per se*,' the collapse set in an hour after the patient had been admitted into hospital."

There were six cases of cholera in the Leven, four of which proved fatal. A considerable number of cases of choleraic diarrhœa occurred at the same time, but little information is, however, to be obtained with reference to either of these forms of disease. They occurred during the Lady quarter of the year, when the vessel was on the coast of Borneo, and the cases of cholera appear to have been very virulent. One proved fatal in eight hours; one, in six; and two on the day after they were attacked.

There was a single case of cholera in the Pelorus which proved fatal. The disease was contracted at Amoy, under the following circumstances:—The patient, a seaman, went on shore on the 27th of August, when general leave was given; he there got drunk, and with some others was capsized from a shore boat into the water. He reached the shore, however, and remained in his wet clothes during all that night drinking freely. Next day he went on board, and performed

† Deputy Inspector General G. Mackay, M.D.

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performed his duty as usual. On the following morning, the 29th, he was sent with a working party in the launch, a distance of six miles, to recover anchors belonging to the Janus. He had scarcely reached the place, when he was seized with violent cramps of the limbs and abdominal muscles, accompanied with vomiting and purging. Champagne and brandy were freely given him, but his symptoms becoming suddenly very alarming, he was sent back to the ship, which he reached about 12.40 p.m., being in a state of collapse, with no pulse at the wrist, the breath and tongue cold, excessive thirst and cramps, and the surface dark coloured and shrivelled. In this condition he continued until 4 p.m., when he expired. Cases of cholera were occurring at the time among the shipping in the harbour, and in Amoy, but they are said not to have been numerous.

There were three cases of cholera in the Perseus, two of which proved fatal. One of the fatal cases occurred at Penang, where the disease was prevalent on shore, and the other at Shanghai. The circumstances connected with the latter case are thus recorded by the surgeon* of the ship:—

"Towards the end of the month of August, cholera began to appear among the Europeans and Chinese on shore. Extra precautions were at once taken to preserve the ship's company, such as limiting the leave on shore to the smallest amount possible, and issuing sanitary instructions for the guidance of the men, enforcing great cleanliness, and exercising the strictest surveillance over the men's food. An attempt was made to procure good malt liquor for their use on board, but the high price of every article of English consumption throughout China prevented this arrangement being carried out. Unfortunately, at this time, we were obliged to furnish two guards of marines for service on shore, one at the naval store, the other at the Ningpo Joss-house, where a large quantity of military stores were kept. Both sites were rather more unhealthy than most of Shanghai, owing to open drains, swampy land, and the presence at the latter of many Chinese graves. One of our marines, while sentry at the naval yard, was seized with cholera on the night of the 1st of September, but owing to the corporal in charge of the guard not considering him very ill, the man was not sent on board until early next morning, when he arrived in a state of extreme collapse. Every effort was made to procure reaction, but in vain. This man was a poor weakly subject, very tall, thin, and ill made; he had formerly suffered from severe diarrhœa.

"Most of the cases of cholera which occurred on shore were among children or debilitated adults, and were mostly fatal. A great variety of treatment was adopted by the medical men on shore, but large doses of chlorodyne, with champagne and brandy, were principally

* Dr. A. Merser.

principally trusted to. The Chinese were said to cure many cases by acupuncture, but with how much truth I was unable to learn."

Two cases of cholera occurred in the Scylla, at Amoy, one of which proved fatal in the person of a boy, who, it appears, had been suffering for two days previously with neglected premonitory diarrhœa. He was placed on the sick-list in the morning of the 9th of October, and died early on the morning of the 11th. There was nothing peculiar in the symptoms of his case, which were those of Asiatic cholera; his body, however, was examined after death, and the following is the report of the autopsy by the surgeon of the vessel*:—

"Body well nourished; organs of thorax normal, with the exception of some old pleuritic adhesions on the left side.

"The stomach presented patches of hyperæmia about the cardiac orifice, as did likewise the whole intestinal tract; these patches were intense in the lower part of the ileum, at the cæcum, and in the large intestine about the sigmoid flexure, where the mucous membrane seemed disorganised, and could be readily scraped off with the finger nail; in the ileum, for about two feet above its entrance into the cæcum, and in the cæcum the solitary and agminate glands were enlarged, and more perceptible than natural.

"The mesenteric glands were enlarged; the other organs seemed healthy; the gall-bladder was distended with green bile; the kidneys were rather contracted, and their envelopes peeled off very readily.

"There was no fæcal matter in the intestines, but a thick, sticky gummy matter adhered to the mucous membrane; the blood was thick, of the consistence and appearance of treacle; there was a dry, sticky feel about the viscera; and their connecting tissues were so tough that they were not so readily separated as usual."

The following remarks on the water-supply in China, and particularly at Shanghai, are by the medical officer† of the Manilla:—

"On our return to Shanghai, at the end of September, the crew of the Manilla remained healthier than those of the other ships in harbour, and this I attribute chiefly to their being more liberally supplied with filtered water; in these Chinese rivers it is of the greatest importance that there should be a good supply of pure water, or at least of water as pure as can be obtained. If the men drink the water of the rivers, fevers, diarrhœa, dysentery, cholera, &c., must inevitably be the result. The rivers are little more than large sewers, receiving the filth and off-scourings of thousands of Chinese for miles. The water generally supplied to the ships here is filtered by a company, and professedly brought from the lakes; this, however, I think is doubtful; though far purer than that which

* Surgeon Wm. Edney. † Assistant-Surgeon C. C. Wimberley.

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which flows alongside, it is by no means free from organic and other impurities."

Diseases of the Liver.—There was a considerable increase in the ratio of cases coming under this head, as compared with the preceding year; and the ratios of invaliding and mortality were also increased.

A death from cirrhosis of the liver occurred in the person of a Marine, attached to one of the gun-boats, who had long been ailing, and latterly was affected with ascites. After death, three quarts of serum were found in the peritoneal cavity; the liver was diminished in size, in an advanced stage of cirrhosis, and adherent to the diaphragm by fibro-cellular bands, indicating former inflammatory action.

Two deaths from abscess of the liver occurred in officers after they were invalided.

Diseases of the Genito-Urinary Organs.—There was a trifling reduction in the ratio of cases coming under this head, as compared with the preceding year, but the invaliding rate was higher. Of syphilis, 777 cases were under treatment, the average duration of each case on boardship and in hospital being upwards of thirty-eight days. Between eighty-four and eighty-five men were daily inefficient, from some form or other of this disease alone. The daily number incapacitated by venereal diseases generally, was over 100 men. The ships which suffered most severely from venereal diseases were, the Conqueror, Euryalus, Pelorus, Princess Royal, and the Severn. The Marine battalion also suffered severely.

There were fifty-two cases of primary syphilis, and twenty-four of the secondary form of the disease in the Conqueror. All this disease was contracted at Yokohama, where prostitution, uncontrolled by surveillance of any kind, is a Government institution. Many efforts have, at different times, been made to induce the Japanese authorities to take some steps towards checking the spread of the destructive diseases arising from this cause, but hitherto to no purpose. The acting surgeon* of the Conqueror has drawn up the following admirable and instructive analysis and report on the various forms of the disease as they appeared on board that ship:—

"Diseases of this nature have caused a greater amount of sickness and loss of service than those of any other class. Eleven men have

* Acting Surgeon H. Hadlow.

have been daily incapacitated for duty during the whole period of this return, and 9·5 of these were from syphilis alone, notwithstanding that the ship has been for a great part of the time at sea, and that little or no opportunity has been afforded for contracting fresh infection since August. During June, whilst at anchor at Yokohama, the daily number sick from these causes alone was nineteen; and even this number, large as it is, does not express the whole loss of service, as there are many cases of rheumatism following primary sore, but unaccompanied by any recognised sign of constitutional infection, that are, on that account, returned as rheumatism, although there can be but little doubt of their specific nature. Almost all the cases were treated on board; one was sent to sick quarters at Yokohama, and at Hong Kong four men were temporarily sent on board the Melville during the refitting and caulking of the ship. One of these was a phagedenic sore. He returned on board when the ship sailed for England, not at all improved; the sore much larger and still extending, without any attempt at repair. Another case of phagedenic chancre also appeared in the ship about the same time, destructive inflammation attacking the hard nodular base of a sore contracted at Yokohama. These two men were placed in cots beneath the poop, under a screen, and were kept separated from the ship's company, but they progressed unfavourably, the infected tissue, during a portion of the voyage to the Cape, perishing en masse and being thrown off in small black sloughs as well as by the process of molecular destruction. On arrival at the Cape both cases were landed. The necessity for their close segregation was accidentally manifested during the quarter. A man had whitlow of the deep form, which was progressing well until it suddenly assumed a most unhealthy appearance, sloughed, and the finger had to be amputated. It was found afterwards that during the previous week he had passed much of his time in the captain's berth, which had a window opening opposite the screen under which these two men were confined.

"It thus appears that during the time the ship was at anchor a proportion not far short of half the total amount of sickness was caused by venereal cases. The extreme importance to the naval medical officer of a disease that thus burdens our sick-lists, fills our hospitals, impairs the efficiency of ships, and leads to endless inconvenience and expense from loss of service and invaliding, gave rise to some attention being paid to the history and course of the cases that came under observation in the past year, and the large number of infections that presented themselves after the free leave given at the termination of the small-pox epidemic in February and afterwards, offers a favourable opportunity for comparing the results of observation here with the received European opinions on the subject. An attempt has been made to do this in the following Table, and the subsequent remarks, the former giving a synopsis of the cases, arranged in chronological order, the latter not pretending to offer any connected description of the disease as it appears in Japan, but merely presenting, as briefly as may be, a slight analysis of the most prominent symptoms mentioned in the Table, and touching on no point that does not arise naturally out of the cases there detailed:—

SECTION I.—Cases of Primary Syphilis treated in 1865.

	No.	Primary Sore.	Secondary Affections.
		1864:	
A.	1	17 Dec.—Phymosis; glans and prepuce studded with soft suppurating sores; local treatment. Duty, 26 Jan.	22 Aug.—Condylomata; no other sign of constitutional disease.
A.	2	19 Dec.—Chancre, apparently non-infecting; enlarged and painful glands in groin; local treatment; healed in 17 days; bubo subsided. Duty, 8 Jan.	10 Apr.—Invalided for rheumatism.
B.	3	25 Dec.—Primary sore, with suppurating bubo and sloughing of inguinal gland. Duty, 8 Mar.	22 May.—Syphilitic ecthyma of both legs followed by unhealthy ulcerations.
A.	4	26 Dec.—Crop of soft suppurating sores on prepuce and glands; no gland enlargement; local treatment. Duty, 15 Jan.	
C	5	26 Dec.—Sloughing chancre; became healthy 4 Jan., and healed 31 Jan.; no gland enlargement. He was very debilitated and cachectic, and was invalided with no sign of constitutional disease. 10 Apr.	
		1865:	
B.	6	16 Jan.—Inflammatory phymosis, superficial chancres round meatus; local treatment.	End of January, specific papular eruption and throat affection; hospital; duty in March.
B.	7	20 Jan.—Three sores of some duration when seen; their incubation unknown; no hard base; non-suppurating surface; chancre enlarged without suppuration. Hospital, 23 Feb.	Secondary symptoms in March; nature unknown; went home from hospital, time expired.
B.	8	27 Jan.—Phymosis, soft chancres; healed in March, leaving prepuce much thickened. 12 June.—Prepuce greatly swollen; old sore broken down, and re-infected.	25 June.—Face and arms covered with specific lichen and tubercle. 28 June, secondary ulceration of old cicatrix, producing unhealthy surface and hard base; eruption, intense cachexia, rheumatism, and obstinate dysentery.
A.	9	25 Feb.—Soft sore on prepuce; inflamed gland; local treatment; bubo subsided. Duty, 8 Apr.	
A.	10	5 Mar.—Simple sore on glans; no enlargement in groin; local treatment. Duty, 26 Mar.	April.—Rheumatism.
A.	11	19 Mar.—Chancre between glans and prepuce; suppurating bubo; sore healed 28 Mar.; bubo, 13 Aug. Duty.	
A.	12	29 Mar.—Paraphymosis; deep, ragged, ulcerated sore in sulcus; scattered sores on glans; groin tender; healed, 20 April. Several fresh sores appeared on glans; mercury given, but abandoned; sores extending; healed, 12 June.	4 May.—Muscular pains, and some tenderness of shins, aggravated at night; no other sign of constitutional infection.
A.	13	1 Apr.—Chancre, non-indurated; healed in a fortnight; suppurating bubo; alterative course of mercury. Duty, 7 May.	
A.	14	8 Apr.—Superficial sores round corona; short course of mercury. Duty, 18 Apr.	
A.	15	12 Apr.—Large chancre of glans and prepuce, unhealthy and extending; local treatment; no gland enlargement. Duty, 23 Apr.	May and June.—Rheumatism; no indication of skin or throat affection.

Section I.—Cases of Primary Syphilis treated in 1865—*continued.*

	No.	Primary Sore.	Secondary Affections.
		1865:	
A.	16	Apr.—Soft superficial sores; local treatment; healed readily.	
A.	17	23 Apr.—Soft superficial sores; mass of enlarged glands; suppurating bubo; local treatment. 6 July, Duty.	
C.	18	22 Apr.—Returned from hospital, where he had been sent with phagedenic chancre, originating 9 Sept. 1864, on an old cicatrix. It was then serpiginous, and continued to be so until the end of the year, when it healed.	
A.	19	24 Apr.—Several superficial sores in sulcus; healed in five days; double suppurating bubo; local treatment.	
B.	20	24 Apr.—Typical infecting sore; defined hardness; non-suppurating surface; specific ganglionic enlargement of glands in groin; healed 7 May. A crop of suppurating sores appeared, and healed readily; course of mercury. Duty, 14 May.	18 June.—Vesiculo-pustular specific eruption on arms and legs, becoming pustular. 8 July.—Secondary ulceration of sore.
B.	21	1 May.—Infecting sore; incubation one month; defined hardness; ganglion in groin; sore healed, leaving hardness and almond-like enlargement of inguinal gland. Took a little mercury.	20 May.—Rheumatism, without any sign of constitutional disease.
B. C.	22	5 May.—Superficial excoriation, and ragged, foul chancre destroying frænum; no gland enlargement. 20 May, a second sore appeared, same character; local treatment. Duty, 31 May.	19 June.—Secondary ulceration and phagedena of sore, sloughing into urethra; suppurating bubo. July.—Maculated and lichenous syphilitic eruption; rheumatism rendering him a complete cripple.
B.	23	6 May.—Large, foul chancre on prepuce, non-suppurating; three weeks incubation; local treatment. Healed.	24 May.—Muscular pains. 22 June, maculated, dull copper-coloured eruption on palms of hands, and on the arms; also rheumatism.
A.	24	7 May.—Circular suppurating sores, and mass of glands (which suppurated) in left groin; took mercury for seven days only. Duty, 16 July.	Rheumatism complained of constantly for months.
A.	25	10 May.—Soft sore on skin of prepuce; suppurating bubo; short course of mercury. Duty, 18 June. 30 July.—Soft sore on skin of prepuce, healed readily.	15 Aug.—Rheumatism, chiefly affecting elbow joint, rapid swelling; no sign of constitutional infection.
A.	26	12 May.—Large, foul, rugged sores on skin of prepuce and glans; double suppurating bubo. Duty, 13 July.	Nos. 26 and 27 relate to the same man.
C.	27	27 Aug.—Chancre on hard nodular base, in different position to above: shallow surface; adherent secretion; twelve days' incubation; groin suppurated again - - - - - 24 Sept.—Phagedena, involving great part of upper surface of prepuce. Hospital, 3 Dec. - -	
B.	28	16 May.—Circular sore on skin of prepuce; edges raised; distinct hardness; no ganglions or gland enlargement; mercurial treatment, 19 days. Duty, 9 June.	
B.	29	22 May.—Sore by side of meatus; no hardness; surface non-suppurating, and covered with adherent secretion; enlarged glands; fortnight's incubation. Duty, 9 July.	Rheumatism without any indication of constitutional disease.

Section I.—Cases of Primary Syphilis treated in 1865—*continued.*

	No.	Primary Sore.	Secondary Affections.
		1865:	
A.	30	9 June.—Crop of soft suppurating sores on mucous surface of prepuce; local treatment. Duty, 16 July.	
B.	31	24 May.—Chancres on prepuce, surrounded by hardness; fortnight's incubation. June, specific ganglion in groin; mercurial course. Duty, 30 July.	24 June.—Cachexia, pyrexia, specific, psydraceous pustular eruption, becoming papular. August, eruption prominent; raised lichen; pain of tibiæ; nodes and recurrent iritis subsequently.
B.	32	28 May.—Erroneously returned for bubo, the primary sore being healed, and its existence denied; suppurating bubo.	18 June.—Glands in opposite groin enlarging; ill-marked, but decided specific lichen; secondary ulceration of sore.
A.	33	30 May.—Large foul sore, occupying position of frænum; several small sores; surfaces suppurating. Duty, 20 July.	
B.	34	31 May.—Sore at edge of meatus; thin non-purulent secretion, and long in healing; local treatment; no gland enlargement. Duty, 25 June.	20 Oct.—Excavated ulcers of feet, having all the appearance of syphilitic ulceration of the deep form.
A.	35	5 June.—Excavated chancre at junction of glans and prepuce; superficial sore on skin of prepuce; both soft; no gland enlargement. Duty, 25 June.	
B.	36	– June.—Well-marked infecting sore; healed with local treatment, leaving hardness.	July.—Febricula, followed by specific eruption, sent to hospital.
A.	37	9 June.—Soft sore on prepuce, and gonorrhœa; local treatment. Duty, 10 July.	18 Aug.—Secondary ulceration of sore.
B.	38	14 June.—Extensive cartilaginous hardness of mucous surface of prepuce; defined edge; superficial ulcerations; specific ganglion in groin; mercury 14 days. Duty, 29 June.	
A.	39	17 June.—Soft sore; no gland enlargement; local treatment.	
A.	40	17 June.—Chain of soft, ragged, eaten-looking chancres, at times extending, at others suppurating; suppurating bubo in each groin. Duty, 20 Sept.	
A. B.	41	21 June.—Circular soft sore on mucous surface of prepuce; no gland enlargement; local treatment. July, hard base formed, gradually becoming distinct and defined, with specific ganglion; mercurial treatment. Duty, 19 July.	30 July.—Secondary ulceration of chancre.
A.	42	21 June.—Suppurating sore on mucous surface of prepuce; local treatment. Duty, 26 June.	
A.	43	25 June.—Suppurating sore, skin of prepuce; local treatment. Duty, 16 July.	
A.	44	2 July.—Balanitis; single sore on skin of prepuce, with raised edges; afterwards ragged surface, no hardness; had a week's incubation; suppurating bubo. Duty, 11 Aug.	
A.	45	9 July.—Two small, ragged, eaten-looking sores on skin of prepuce; suppurating bubo; local treatment. Duty, 30 July.	
A.	46	29 July.—Small simple sores on prepuce. Duty, 18 Aug.	
A.	47	7 Aug.—Several soft, shallow, suppurating sores on prepuce; suppurating bubo; local treatment. Duty, 18 Aug.	

Section I.—Cases of Primary Syphilis treated in 1865—*continued*.

	No.	Primary Sore.	Secondary Affections.
C.	48	1865: 14 Aug.—Sore, said to have a fortnight's incubation, became phagedenic, extending from time to time until whole glans perished. Hospital, 3 Dec.	Elastic swellings on scalp (Gummata) leading to the formation of circular ulcers.
A.	49	14 Aug.—Small soft sore on mucous surface of prepuce; local treatment; not in list; had a primary sore eighteen months ago.	Nov.—Rheumatism, rendering him a complete cripple; enlarged lymphatic glands at bend of elbow; hair fell off.
C.	50	21 Aug.—Inflammatory phymosis, chancre beneath; sloughing threatened; prepuce laid up, disclosing phagedenic sore; local treatment. Duty, 24 Sept.	
A. B.	51	22 Aug.—Soft unindurated sore near frænum; double infection; unhealthy sore, and hard base forming.	20 Sept.—Secondary ulceration of sore; November, rheumatism.
B.	52	1 Sept.—Large chancre on prepuce; a week's incubation; surface ashen and non-suppurating.	6 Oct.—Rheumatism of both ankles; ill-marked but distinctive specific eruption.
A.	53	17 Sept.—Two shallow sores on skin of prepuce; no hardness; yellow surface; glands enlarged; local treatment. Duty.	Rheumatism.

Section II.—Cases of Constitutional Syphilis treated in 1865.

No.	CASE.
54	Primary sore on prepuce, in 1864, of a trifling nature, as he was not put on the list until 19 Jan. 1865, when he had suppurating bubo, followed by extreme syphilitic cachexia; specific ulcers in throat; patchy, coppery eruption, becoming rupial; subsequently syphilitic laryngitis and ulcerations.
55	Chancre in June 1864, character not noted. January 1865, suppurating bubo; patchy macular eruption; cachexia and severe rheumatism, leading to invaliding. 10 April.
56	Primary sore 18 months ago, and secondary symptoms. January, rheumatism, nodes on tibiæ and sternum. Invalided from hospital.
57	Nov. 1864.—Primary sore; character not noted. Jan. 1865, pyrexia; specific macular eruption; throat affection; cachexia; rheumatism, leading to invaliding. 10 April.
58	April 1864.—Primary sore; character not known. June 1865, pyrexia; faint but distinct specific eruption; severe rheumatism. November, return of rheumatism; no eruption, but there have been a few patches lately.
59	Original sore not seen; denies having had one since leaving England. August, has had obstinate rheumatism for some time; now presents a macular eruption over trunk.
60	Original sore never seen. 22 Oct., secondary ulceration.
61	Original sore never seen. 1 Nov., secondary ulceration of sore. 18 Nov., great cachexia, followed by specific tubercular eruption, pain in shins and superficial bones, scalp, &c.

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(2.) The first section of the Tabular Statement includes fifty-three cases of primary infections, treated between 1st of January and the end of the year. Every case that presented itself is inserted in the order in which it appeared, and the whole Table may be, consequently, taken as a fair representation of the relative frequency with which the different forms of the disease occur. The second section of the Table comprises a few men with secondary affections, in whom our knowledge of the primary sore is imperfect, but which furnish illustrations of some of the facts of constitutional disease. The cases are numbered consecutively in the second column of the form; the third column contains the date of appearance, character and progress of the primary sore; and the last, the date of appearance and nature of the secondary affection, where any has followed. For the purpose of connecting similar cases together, and considering them in groups instead of in detail, some simple classification is desirable, and they are associated in three sets. The first, marked A, non-infecting, including both suppurative and ulcerative inflammations of Lee, and consisting of sores without specific induration, with short periods of incubation, secreting a more or less, perfectly formed pus, attended or not by suppurating bubo, and not giving rise to constitutional infection. The second, B, infecting, the specific adhesive inflammation of Lee, with a period of incubation varying from a few days to a month (von Barensprung), and presenting, in the typical cases, defined hardness, non-suppurating surface, almond-like enlargement of inguinal glands, or ganglions and secondary symptoms. The third, C, mortification, including all forms of destructive inflammation, phagedena, and sloughing. An initial letter corresponding with that of the class to which the primary sore probably belonged, is prefixed to each case in the first column, although in more than one instance there is considerable doubt as to which division the chancre ought properly to be assigned.

"(3.) Taking the first group, that of simple non-infecting sores, there are twenty-eight cases that may be at once and unhesitatingly associated together, numbered respectively on the Table 1, 2, 4, 9, 10, 11, 12, 13, 14, 16, 17, 19, 24, 25, 26, 30, 33, 35, 39, 40, 42, 43, 44, 45, 46, 47, 49, 53. They all appeared shortly after returning from leave, presented non-indurated and suppurating surfaces, seven of them were followed by suppurating bubo, and none were succeeded by secondary symptoms, unless rheumatism, unaccompanied by any other indication of constitutional infection can be regarded as such, a subject to be considered hereafter. There are some cases referred to this class in the form, which present slight deviations and require a few words of individual consideration. No. 37 is excluded from the list of unquestionably local sores, from the fact of secondary ulceration attacking the cicatrix, a symptom that will be found to belong rather to the second class of cases; and No. 15 presented an unhealthy, doubtfully suppurating surface to the original sore, and was followed by rheumatism without any discoverable sign of secondary disease. It is quite possible that this is questionably placed. No attempt has been made to distinguish between the local suppurative sore and the ulcerative sore with suppurating bubo, as is done by Lee. Nos. 26, 40, 44, and 45 appear to have been of

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the latter kind, ragged ulcerated chancres, ill-formed purulent secretion and suppurating bubo, without secondary symptoms, but several of the cases of bubo were preceded by chancres of the local superficial kind, No. 19 for instance.

(4.) We may next take into consideration the group of infecting sores, lettered B. on the Table, and comprising eighteen cases, of which six may be regarded as typical, numbered 20, 21, 23, 31, 36, 38, corresponding with the example given; firstly, in length of incubation, No. 21 having about a month; No. 23, three weeks; and No. 31, a fortnight. Secondly, in the well-defined cartilaginous hardness; not particularly well marked in No. 23. Thirdly, in the non-suppurating surface, noted in all. Fourthly, in the diagnostic specific gland enlargement (ganglion) recorded in Nos. 20, 21, 31, 38; and in the secondary affections. Three cases, Nos. 6, 29, and 34, were of chancre round meatus, where probably the appearance of hardness might have been prevented by the position of the sore; nor did they present specific ganglions, but the surfaces were non-suppurating; they were considered true infecting sores; and No. 6 was followed by specific eruption and throat affection; No. 34 by ulcers of the feet, that were regarded as specific; and No. 29, although not followed by secondaries, may be placed in this division with tolerable certainty, from its prolonged period of incubation. Nos. 7 and 52 are not inserted amongst the typical cases, from absence of the hardened base, and the non-existence of ganglion. Their surfaces, however, were recognised, and both were followed by constitutional affections. The phenomenon of double infections is exemplified in cases 41 and 51, soft suppurating sores first appearing, and changing, when their periods of incubation were accomplished, into distinct adhesive chancres, No. 41 presenting a typical ganglion, and both of them defined hardness and subsequent indications of constitutional disease. Nos. 8 and 22 present such a combination of primary and secondary ulceration, and the latter of sloughing, that it is not easy to follow their exact history; both were followed by very severe constitutional syphilis; and No. 28 is very doubtfully placed amongst infecting sores at all. The remaining two cases appear to be altogether exceptional. In No. 3 the primary sore was so slight as to be scarcely mentioned in the history of the case, and was followed immediately by suppurating bubo. It would naturally be referred to the class of ulcerative inflammation by Lee, but for the appearance of ecthyma on both legs in May, with cachexia, and every indication of a syphilitic origin to the skin affection. In No. 32 the original sore was not seen at all, and its existence denied, when he presented himself with bubo, which suppurated. Two months afterwards a specific lichenous eruption appeared, and secondary ulceration attacked the sore, and then, when all doubt respecting the nature of the case was set at rest, the primary affection was admitted. One of the secondary cases, No. 54, furnishes another exceptional instance, the original chancre being of a very trifling description, and followed within a month by bubo, which was succeeded by severe constitutional symptoms. The received opinions on the subject of syphilis do not agree with these cases. The slight nature of the original chancre and the immediate occurrence of bubo, proceeding to suppuration,

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concurs sufficiently with the description given by Lee of ulcerative inflammation, whilst the subsequent appearance of secondary symptoms is entirely opposed to his experience. Altogether, of the eighteen cases of infecting sore, eleven were followed by specific eruption, two by rheumatism only, one by rheumatism and secondary ulceration of sore, one by secondary ulceration of sore only, one by probably specific ulcers of the feet; whilst two had no constitutional symptoms following; the first of these, No. 28, having very doubtful claims to admission into the class at all, but the second, No. 38, having been in every respect a typical primary infecting chancre.

(5.) The last class, characterised by specific destructive inflammation is represented by five cases, Nos. 5, 18, 27, 48, 50. The first of these (No. 5) is marked as "sloughing," and is typical of that form of syphilitic mortification, the whole infected portion perishing and being thrown off, leaving a granulating surface. In this case the process occupied nine days, and the sore healed kindly in a month. The patient was subsequently invalided for cachexia and debility, with no sign of constitutional syphilis. In case No. 18 the chancre became serpiginous, healing in one place whilst extending in another by molecular disintegration. Months of treatment on board and in hospital produced very little change, and it was not until the end of the year that the sore healed. The remaining cases were phagedenic. No. 50 terminated satisfactorily; the prepuce threatened to slough, could not be retracted, and required to be slit up, and the exposed sore shortly took on healthy action and healed. No. 48 is another instance of true phagedena, treated with but little benefit on board, and in Hong Kong hospital. No. 27 appears to be an instance of phagedena attacking an infecting sore, in a man broken down by previous syphilis and suppurating bubo. Here also the phagedena extended in spite of treatment, the healed buboes in each groin broke down, and took on similar action. In both the cases last referred to, a change in the character of the destructive process was observed during some unhealthy weather in November; the infected tissue beginning to be destroyed *en masse*, and thrown off in small, dark, dry sloughs, in addition to the continuous extension of the sore by true phagedena. Both men were sent to the Cape of Good Hope hospital. The letter C is affixed to case 22. In this phagedena supervened on the secondary ulceration of the sore, and formed no part of the primary symptoms.

(6.) Constitutional symptoms, when they have followed, have appeared at intervals varying from a fortnight (case 6) to five months (case 3) after the primary infection. The slight pyrexia that commonly precedes them, and ushers them in, has been marked in several instances, Nos. 23, 31, 36, 57, 58; and the affections of the skin have been various. The most frequent has been what is termed in the Table, maculæ, but which some might prefer to call roseola, dull, copper-coloured, patchy discolorations, little, if at all, raised above the surface, and often very ill-marked, and only represented by a few faint blotches. Case 23 presented it on the palms of the hands, and still more slightly on the fore-arm; and No. 52 manifested it in a few faint but recognizable patches on the legs. It has some importance, notwithstanding its trifling in-

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trinsic nature, as it will be seen, when we speak of rheumatism, that it is the form of syphilide commonly associated with the most crippling cases of this intractable sequel. Papular eruption, lichen, was represented in cases Nos. 6, 22, and 32, and in No. 31 the papules succeeded and existed for a time in company with minute pustules. Six months after the first appearance of the eruption, iritis presented itself in this case, the only one in which an affection of the eye has supervened. Case No. 8 was mixed, the lichen being associated with syphilitic tubercles, and followed by a train of secondary symptoms, and ultimately by intractable dysentery, a fact that may be referred to in passing, as syphilitic ulceration of intestines has been considered by some authorities to be an occasional cause of long-continued dysenteric looseness. Two cases of pustular eruption appeared; No. 20, in the form of ill-developed eczematous impetigo, becoming wholly impetiginous before it faded; and No. 3 of ecthyma of the legs, accompanied by cachexia and terminating in troublesome ulcerations. One case of rupia is recorded (No. 54), in a man who exhibited severe cachexia and prolonged secondary symptoms after a trifling primary sore. Syphilitic ulceration is doubtful in case No. 34, in which the man contracted a non-suppurating sore in May, and presented himself in October with several small deep ulcers of the foot, about the size of a shilling, with clean cut edges, but without any doughy induration or coppery blush round them. Supposing them to have existed long enough before the case was seen, to have destroyed the whole infected induration, they presented much the appearance of the deep specific ulcers described by Paget, and which he states to be commonly unaccompanied by any other present sign of syphilis. Enlargement of the superficial lymphatic glands, resembling in feel the supposed diagnostic enlargement of cervical glands at nape, has been observed, and is recorded in case No. 49, at bend of elbow; and circumscribed elastic swellings have appeared about the cranium and superficial bones, as in cases Nos. 48 and 56.

"(7.) Secondary ulceration of the sore is regarded by Lee as one of the symptoms that follow constitutional infection, and the instances of it in the Table appear to fully carry out this view. It is recorded to have presented itself in seven cases, Nos. 8, 20, 22, 32, 37, 41, 51, of the first series; and two, Nos. 60 and 61 of the second. On examining the first seven, it will be observed that in six the primary sore was recognised at first, or manifested itself subsequently, by the production of constitutional effects, to have been of an infecting nature, particularly in cases 8, 20, 22, and 32. In No. 51, ulceration was accompanied by rheumatism; and, in No. 41, it stood alone, after a typical sore. No. 37 is exceptional, the chancre being apparently non-infecting, and the secondary ulceration the only present sign of syphilis. No. 61 appears to be a typical case. The original sore was never seen, and was said to have been contracted some time ago. He presented himself with secondary ulcerations of considerable size, and a cachexia that was considered syphilitic; and, eighteen days afterwards, a distinct eruption of copper-coloured tubercles appeared, with nocturnal pains, and every indication of severe constitutional infection. I rather

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dwell upon this point, as there appears to be a prevailing opinion that secondary ulceration is a mere accidental circumstance, depending on neglect of cleanliness, &c., instead of being the more important index of secondary disease. The character of the secondary ulceration was commonly troublesome (Nos. 8 and 61), and in one instance phagedena resulted (case 22).

"(8.) We may now consider the subject of rheumatism, a symptom of extreme importance, from its being the commonest cause of invaliding of any of the secondary affections, and equally so from the facts that arise from its examination, suggesting the possibility of distressing and crippling constitutional effects following non-infecting sores, particularly even the simple suppurating chancre that we have been accustomed to regard as purely local in its effects. Of the fifty-three cases in the first section of the Table, fourteen are found to be followed by rheumatism, and eight of these to have succeeded chancres of a non-infecting nature, Nos. 2, 10, 12, 15, 24, 25, 49, 53. And although none of these have been accompanied by any of the better recognised signs of syphilis, the rheumatism standing alone (except, perhaps, in case 49), such a proportion, 26 per cent. of the presumably non-infecting sores, is far too large to be looked upon as accidental. Case No. 2 resulted in invaliding, and No. 49 was entirely crippled. The remaining cases, Nos. 21, 22, 23, 29, 51, 52, followed infecting sores. In the first and fourth of these the rheumatism appeared alone; in No. 51 it was accompanied only by secondary ulceration of the sore, but the remaining cases presented distinct secondary eruption, and always of the same description, the patchy, copper-coloured syphilide, called in the Table, maculæ, sometimes well marked, but commonly very indistinct. In No. 23, for instance, a few patches on the hands and fore-arms were all that could be traced, and in No. 52 slight eruption could only be detected on the legs. The second section of the Table furnishes other examples; Nos. 55 and 57, both invalided from the severity of rheumatism, presented well-marked, but not extensive, eruption. In No. 58 it was very slight before his first attack of rheumatism; and, on his second appearance with the same complaint, it could not be discovered at all; but he stated that he had seen it shortly before the pain and debility became so great as to incapacitate him for work. In case No. 59, again, the man had been troubled for a long time with obstinate rheumatism, and in August presented the same slight, dusky, discoloration over the trunk. It consequently appears that rheumatism may follow distinctly infecting sores without any other present indication of secondary disease, but that more commonly it is accompanied by an ill-marked, patchy syphilide, whilst after non-infecting chancres it stands alone, and is unaccompanied by any skin affection. The possibility that is certainly suggested in the above Table, of rheumatic affections of a specific nature, sometimes of severity and leading to invaliding, following primary sores, which it is customary to regard as having no influence beyond the actually infected tissue, appears to me very important, and well worthy of the more extended observation by which it may be established or disproved.

"(9.) Briefly

"(9.) Briefly to summarize the results that appear to be fairly deducible from the above; they are:—

"*α*. That 56 per cent. of the cases are non-infecting (suppurative and ulcerative of Lee).

"*β*. That 34 per cent. are infecting sores, many of them typical, but even then not necessarily followed by constitutional syphilis; whilst several sores, followed by distinct secondary symptoms, were more allied to the ulcerative than to the adhesive form of inflammation.

"*γ*. That 10 per cent. were originally, or became phagedenic.

"*δ*. That secondary ulceration commonly attacks the infecting, but rarely, if ever, the non-infecting, sore.

"*ε*. That rheumatism, unaccompanied by any form of skin affection, or sign of constitutional disease, appears in 26 per cent. of the cases recognised as non-infecting, and in 33 per cent. of the infecting sores, being, in the latter class of cases, commonly associated with a more or less ill-marked roseola-like syphilide, but in other instances appearing alone without any indication of secondary infection."

During the time the Euryalus remained within the limits of the China Station, a period of about five months, eighteen cases of primary and thirty-two of secondary syphilis were entered on her sick-list. On her homeward passage, however, many other cases occurred; so that altogether, until the date of her being put out of commission, the 23rd of September, twenty-one cases of primary and fifty of secondary syphilis were added. In former Statistical Reports of the Health of the Navy* extended notice has been taken of the prevalence of venereal diseases in this ship, and considerable extracts taken from the observations of the surgeon† in connection with them; and, considering the vast importance of this subject to the Naval Service, it seems desirable to complete the medical history of the ship, in this particular, from the remarks furnished in the Journal of the same officer for the present year.

"There were twenty-seven cases under treatment with primary sores, six of which were cases remaining on the sick-list from last year. Twenty of these cases were non-infecting sores, or soft chancres, not accompanied or followed by induration, arising from the exudation of plastic products, or any other secondary manifestation. Thirteen of them were followed by suppurating buboes. There were seven infecting sores, which were followed by secondary symptoms. The average period which intervened between the first appearance

* Statistical Reports of the Health of the Navy for the years 1863 and 1864.

† Surgeon David Lloyd Morgan.

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appearance of the sore in these cases, and the constitutional symptoms was 76·4 days. Two of these cases were re-admitted on the sick-list with a roseolar eruption, and one of them had also iritis of the right eye. The latter was admitted at Hong Kong with an indurated cicatrix on the outer skin of the prepuce, and an enlarged and indurated gland below Poupart's ligament on the right side. The situation of the gland rendered it doubtful at first as to whether its enlargement was caused by syphilis; especially as the patient protested at the time that he never had a sore on the penis, although he confessed to it subsequently. The indurations were dispersed under the influence of the iodide of mercury. In one case there was no cutaneous eruption whatever. The patient was admitted on the sick-list on the 29th of December 1864, with a small boil-like swelling on the prepuce, which was looked upon at the time as the sequence of small-pox, from which he had been recently suffering, and was then convalescent. It soon suppurated, leaving a suspicious-looking sore, which showed no tendency to heal until the system became influenced by the iodide of mercury. He was discharged to duty on the 18th of January of this year, and remained perfectly well and free from any signs of a constitutional taint until the 9th of April, when he was re-admitted with ophthalmia of the right eye. On the 13th symptoms of iritis appeared; discoloration of the iris; sluggishness of the pupil; and nocturnal supra-orbital pains. Leeches and belladonna were applied, and calomel and opium were given in the usual way. On the 20th there were nodules of rusty-looking lymph in the anterior chamber. The iodide of potassium was then given, and the patient was discharged cured on the 30th of June. He was admitted on the sick-list again on the 11th of July, when he complained of very excruciating pains in the loins at night. These pains proved so very obstinate that it became necessary to administer the iodide of potassium in half-drachm doses, before they became ultimately subdued. There was considerable thickening of the periosteum of the tibia, which was dispersed, however, under the influence of the drug and counter-irritation by means of blisters. Before his discharge to duty on the 7th of August, the patient had increased considerably in weight, and was comparatively in a robust state of health. In another case the first signs of blood-poisoning by the syphilitic virus were swellings of the joints of the lower extremities, of a sub-acute character, accompanied by considerable effusion. The patient presented himself for treatment at Hong Kong on the 28th of April, with enlargement and induration of the inguinal glands of both groins. He protested that he had never had a primary sore, but upon examination there was discovered a small indurated lump on the cutaneous surface of the prepuce. The glands suppurated, and the lump formed into a sore. The iodide of mercury was given until there remained no trace of induration, either in the groins or prepuce; the gums were but slightly affected, and the general health of the patient improved under the influence of the drug. Before our arrival at the Cape of Good Hope, however, sub-acute inflammatory action set in in the left knee-joint, left ancle-joint, and in the right metacarpo-phalangeal articulation, attended

attended by effusion. The iodide of potassium was exhibited in scruple doses with marked benefit. On the 1st of August, whilst riding on shore at St. Helena, a cutaneous eruption of an erythematous character first appeared. The iodide of potassium in small doses, and in combination with the liquid extract of sarsaparilla, was then given, until the rash disappeared. A fresh crop broke out at Portsmouth on the 18th of September, and he was discharged to Haslar Hospital.

"There were two cases in which the eruption assumed a papular form, of a most intractable character. In these cases, patches of minute papules clustered together, pervaded the whole body from head to foot. In one case the secondary cutaneous eruption presented the appearance of a species of rupia. Bullæ of a dark blue hue, containing grumous matter, formed in the lower extremities, and became converted into unhealthy looking circular ulcers, which were very slow in healing.

"*Secondary Syphilis.*—There were fifty-seven cases of constitutional syphilis under treatment, seven of which were cases remaining on the sick-list from last year; forty-five were discharged to duty; six were sent to hospital; and six were invalided. The actual number of men suffering from the complaint in the ship was forty-two; inasmuch as one man had been four times on the sick-list; one, three times; and ten, twice.

"Under this head are returned syphilitic diseases of the skin, joints, fibrous tissues, eyes, testicles, ears, bones and their coverings, &c.

The majority of these cases were the results of primary sores, contracted at Yokohama. The varieties of chancres which came under my notice at that place I have described in my journal for last year,* in which I stated, that although the exhibition of mercury did not appear to have much influence in preventing the appearance of secondary symptoms, I was led to believe that it had a modifying effect upon them, and rendered them less severe than they otherwise would be.

One case was an interesting example of the *non-infecting and the infecting sores occurring in the same individual at different periods*; it strongly confirmed the existence of the soft and the hard chancre, or the local and constitutional sores, which some people still appear to doubt. An able seaman contracted a chancre at Plymouth in 1862, and was on the sick-list from the 18th to the 30th of March; again from the 25th of April to the 6th of May; and from the 10th to the 20th of July, for a bubo: he remained free from any trace of syphilitic disease until January 1864, when he again contracted a sore at Yokohama, which was accompanied by a bubo in the left groin. In September he was re-admitted with a bubo in the right groin, which was

* Statistical Report of the Health of the Navy for the year 1864, p. 275, *et seq.*

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was soon dispersed by means of a compress. On the 27th of December he appeared in the sick-berth with a foul phagedenic chancre on the glans penis, and a suppurating bubo in the right groin. A considerable portion of the glans penis had been destroyed by the eroding sore. Under the influence of opium, in full doses, the chancre had healed on the 10th of January 1865; quinine and iron were then administered. On the 14th, an asthenic form of pneumonia of the left lung had set in; ammonia, stimulants, and counter-irritation cured the patient, and he was discharged to duty on the 10th of February. On the 21st of March secondary manifestations appeared for the first time, severe pains in the knees and shins at night, and coppery coloured patches on the trunk and the upper extremities.

"Another case was an example of the *two varieties of sores existing at the same time in the same individual.* The patient was admitted on the sick-list in March 1864, with several small superficial sores, with fretted and freely secreting surfaces on the glans penis, and on the inner skin of the prepuce. In one spot on the mucous surface of the prepuce, and contiguous to the other sores, was a large circular chancre, with a glazed non-secreting surface, and a hardened base which could be lifted and rendered still more prominent upon pressure underneath by means of the forefinger and thumb; the right inguinal glands were also enlarged. The iodide of mercury was given until the sores healed, and the swelling in the groin was dispersed, but the gums were not touched. In April, a mottled rash appeared on the whole surface of the body, and nocturnal pains set in in the head and extremities. Blisters were applied to the affected parts, and the blistered surfaces were dressed with the strong mercurial ointment until the gums became slightly touched, and the symptoms had vanished. In June the body became covered with patches of clustered papules, and pneumonia of the left lung set in. He was again under treatment in October and December for deafness, loss of hair, and sub-acute inflammation of the joints of the lower extremities. The iodide of potassium, in scruple doses, was given with beneficial results. On the 3rd of March 1865, the patient presented himself again for treatment, in the following condition: the left corner of the mouth drawn upwards and outwards; inability to close the right eye, from which there is copious lacrymation; unable to blow or whistle, and other symptoms of paralysis of the right portio dura; clustered minute papules on the trunk, and excruciating nocturnal pains in the head, accompanied by an offensive discharge from both ears, and deafness. Mercurial inunction was again had recourse to, and the iodide of potassium was repeated. The patient was invalided at Hong Kong on the 3rd of April.

"Another case was rather an unusual one: the patient was admitted on the sick-list at Yokohama on the 6th of October, with a large sloughy sore, accompanied by induration *on the right side of the scrotum*, and enlargement of a cluster of glands in the right groin; treatment, local. A papular eruption appeared on the 1st of November; the iodide of potassium was given until the 7th, when he

was

was discharged to sick quarters at Yokohama. He returned to the ship on the 12th of February, in the following state: general health very much impaired; very much emaciated; covered from head to foot with a minute papular eruption of a coppery hue; induration and enlargement of the right inguinal glands above Poupart's ligament, and enlargement of the superficial glands on each side below the ligament; nocturnal pain in knees, ankles, and shins. Under the influence of a mild mercurial course the rash disappeared, the swellings subsided, and the patient improved so much in general health, that he had increased fourteen pounds in weight on the 20th of March. Here was an example of the primary sore appearing in an unusual locality; and of the marked effects of mercury upon the disease even after it had been allowed to run on for a lengthened period. This, together with numerous other cases in which the non-mercurial plan of treatment has been adopted, lead me to believe that mercury, judiciously exhibited, is invaluable in constitutional syphilis, and should be given if there are no indications to the contrary, whenever induration exists.

"I have alluded to cases in my journal of last year, in which secondary symptoms had appeared in men who had not had primary sores. The following may be considered an example of tertiary syphilis appearing without having been preceded by either the primary or the secondary forms of the disease. A man was admitted on the sick-list on the 1st of March, with disease of the palatine process of the right maxillary bone. He had an old cicatrix on the body of the penis, the result of a soft chancre, for which he was under treatment for a short time in Woolwich Infirmary in 1861. In the Euryalus he was under treatment for gonorrhœa in 1863, and in July 1864 for enlargement and induration of the left inguinal glands which, after the subsidence of the surrounding tumefaction, were found to be elastic, unattached, and freely gliding underneath the skin. I returned his case under the head of syphilis then, notwithstanding that there had been no primary sore; he confessed, however, to a urethral discharge, which disappeared without any treatment prior to his admission. The man presented no trace of secondary syphilis during the different periods that he was under treatment, and was convinced, himself, that he never had any cutaneous eruption."

There were fifty-nine cases of primary and thirty-two of secondary syphilis in the Marine Battalion. Very little information is given in connection with them. Recovery was slow in many instances, owing to the complication of primary sores with intractable open buboes.

In the Pelorus there were forty-five cases of primary and five of secondary syphilis, almost all contracted at Amoy, where the ship was stationed during the greater part of the year; and in the Princess Royal there were thirty-five cases of primary and twenty of secondary syphilis; but from neither

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of these vessels has much information been furnished respecting these forms of disease.

There were thirty-eight cases of primary and fifteen of secondary syphilis in the Severn. With regard to a number of cases that occurred after leave given at Yokohama, the surgeon* says:—

"Soon after the ship was released from quarantine on the disappearing of the small-pox, general leave was given to the ship's company, as they had been confined on board for some time. One unfortunate consequence which followed this indulgence was, after a time, the addition to the sick-list of twenty cases of syphilis and several of gonorrhœa, all contracted at Yokohama. The syphilitic disease proved of the most intractable character, much exceeding in virulence our previous experience of the same disease in the East Indies. The primary sore was not formidable, healing for the most part readily enough under treatment, and in none of our cases on board taking on a sloughing action; but all of them were followed by secondary symptoms of the most inveterate nature. The soft parts were first attacked, the skin being covered with coppered-coloured and pustular eruptions, and occasionally with rupia; then ulceration of the throat and larynx took place; and this was followed by pseudo-rheumatic pains in the bones, periostitis, nodes, and caries. Emaciation progressed very rapidly, and the men from being strong and robust, were so worn out by the virulence of the disease, and the want of sleep from nocturnal pains, that in a short time they were reduced nearly to skeletons, and all had sooner or later to be sent home invalided. The brothels in Japan are a peculiar institution, under the regulation and supervision of the Government Japanese officials, who receive, it is said, great portion of the profits. The women are collected into one large building, which is open to all-comers, and is visited in Yokohama by a mixed crowd of Chinese, and sailors, and adventurers of all nations; and whether it is owing to the effect of this indiscriminate, unclean, and common intercourse, or to some concentrated specific form of syphilitic poison existing amongst the Japanese themselves, shut up as they have been so long from communication with the external world, the poison not having been modified and weakened as in Europe by transmission through multitudes, certain it is that the disease contracted in Japan is about the worst form of syphilis known, and followed by the most lamentable consequences."

Rheumatism.—There was a trifling increase in the ratio of cases coming under this head, as compared with the preceding year, but the invaliding rate was lower.

Diseases

* Surgeon Henry Loney.

Diseases of the Skin and Cellular Tissue.—There is a reduction in the ratio of cases coming under this head, as compared with the preceding year, but the invaliding rate was more than doubled. This was entirely attributable to the virulent character of the ulcers that were under treatment in one or two of the vessels. In the Princess Royal there appears, on one or two occasions to have been a tendency to the spread of sloughing ulcer. One of the medical officers,* in remarking on the diseases under treatment in the month of October, says:—

"Our old and inveterate enemy, sloughing ulcer, has again appeared in our midst. Sixteen cases were sent to hospital during the month, and of these no less than ten patients were sent with sores either actually sloughing, or showing a manifest tendency to do so. They were primarily the result of phlegmons in many cases, and occurred in weak, debilitated, and unhealthy looking subjects. How this blight should have made its reappearance, it is not in my power to explain; but this I know, that every care on the part of the medical officers, relative to dressing, and guarding against infection, was taken. Every sore showing any tendency to spread, or to take on an unhealthy action, was at once separated from the healthy and healing ones. The medical officer on duty sedulously, and in person, dressed all the sores thrice daily, and oftener when the nature of the case demanded.

"Sloughs were removed in all cases by the application of concentrated nitric acid, and soothing applications subsequently used to relieve pain. Afterwards the sore was dressed with water dressing, hot or cold according to the feelings of the patient. Aqueous solution of opium and other mild dressings were employed. In one of these cases the disease made such progress, that the tibia being extensively diseased, the man greatly reduced, hectic, and in danger of sinking, the limb was removed above the knee, by the surgeon of the sick quarters at Yokohama, in whose charge he was."

Wounds and Injuries.—A man's skull was fatally fractured by a stone thrown at him by a Chinaman; for some days he continued at his duty, the wound being dressed by his messmates. Trismus, however, set in, and he was discharged to hospital, where he died ten or eleven days after the injury was sustained. One man died from the effects of fracture of one of the dorsal vertebræ, occasioned by a man falling upon him from aloft. One man died from compression of the brain, the result of injuries sustained on shore; and a man died

* Assistant Surgeon Dr. Alexander Goodall.

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died from the effects of injury to the spine, consequent upon falling from his hammock.

Twenty-two men were drowned. Of these, eleven fell overboard; six were capsized in a boat; one fell over a jetty; one off a pier; one was bathing alongside; one was bathing from the shore; and the circumstances under which one man was drowned are not stated.

Two men died ftom the effects of alcoholic poisoning; and an officer was found dead in his cabin, having been asphyxiated by the vapour of charcoal. It would appear that, the weather being very cold, he had closed the door of the cabin and the scuttle in the ship's side, and had a small charcoal stove alight on the deck. When last seen alive, he was sitting on a chair, and it is supposed that he had fallen asleep in that position, and that when nearly suffocated he had awoke and attempted to rise from his chair, but being almost powerless, had fallen to the deck, upsetting the charcoal stove, and setting fire to the deck, the smoke from which issuing through the crevices of the door first attracted attention. When seen he was lying on the floor of the cabin, quite dead. The face was slightly swollen and congested in patches, the eyeballs protruded, the eyes were bright, and the pupils slightly dilated; the lips tumified and livid, and the tongue very pale. The limbs continued supple, and the body retained its warmth for some time.

The total number of deaths was 122, of which ninety-three were from various forms of disease, and twenty-nine from wounds and injuries, drowning, and other casualties. The ratio of mortality was 23·2 per 1,000 of mean force, which is a slight reduction as compared with the preceding year.

Invalided.—Nine persons were invalided for the sequelæ of fever; seventeen for diseases of the brain and nervous system; fifty-one for diseases of the organs of respiration, forty-six of whom were consumptive; six for diseases of the heart and bloodvessels; thirty-seven for diseases of the alimentary canal, all of a dysenteric character; ten for diseases of the liver; sixty-five for diseases of the genito-urinary organs, sixty-two being for syphilis alone; twenty-seven for rheumatism; one for diseases of the bones and joints; three for diseases of the special senses; twenty-five for diseases of the skin and cellular tissue, eighteen of which were

were for ulcer; ten for dyspepsia and debility; one for dropsy; seven for wounds and injuries of various kinds; and four for hernia; making the total number invalided 273, which is in the ratio of 52 per 1,000 of mean force, being almost precisely the same invaliding rate as obtained in the previous year.

TABLE, No. 1.

SHOWING the Number of Cases of all DISEASES and INJURIES, and the Number INVALIDED and DEAD, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Continued and Remittent Fever	796	169·3	6	1·1	8	1·5
Intermittent Fever	145	30·8	3	·5	—	—
Small Pox	105	22·3	- -	- -	12	2 2
Disease of the Brain	1	·2	2	·3	2	·3
Apoplexy	20	4·2	1	·1	4	·7
Epilepsy	12	2·5	8	1·5	1	·1
Paralysis	7	1·4	3	·5	2	·3
Insanity	4	·8	2	·3	1	·1
Delirium Tremens	24	5·1	1	·1	1	·1
Neuralgia	6	1·2	—	—	—	—
Vertigo	7	1·4	—	—	—	—
Inflammation of the Lungs and Pleura	58	12·3	5	·9	4	·7
Phthisis and Hæmoptysis	49	10·4	46	8·7	18	3·4
Influenza and Catarrh	609	129·5	—	—	—	—
Cynanche	105	22·3	—	—	—	—
Asthma	2	·4	—	—	—	—
Disease of the Heart, Functional and Organic	33	7·	6	1·1	3	·5
Hæmorrhoids	22	4·6	—	—	—	—
Varix	7	1·4	—	—	—	—
Disease of the Stomach and Bowels	5	1·	- -	- -	1	·1
Dysentery	102	21·7	27	5·1	15	2·8
Diarrhœa	881	187·4	10	1·9	1	·1
Cholera	21	4·4	- -	- -	15	2·8
Constipation and Colic	90	19·1	—	—	—	—
Disease of the Liver	33	7·	10	1·9	3	·5
Jaundice	16	3·4	—	—	—	—
Splenitis	1	·2	—	—	—	—

TABLE, No. 1.—SHOWING the Number of Cases of all Diseases, &c.—*continued.*

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	10	2·1	1	·1	—	—
Syphilis	777	165·3	62	11·8	—	—
Gonorrhœa	166	35·3	—	—	—	—
Orchitis	167	35·5	1	·1	—	—
Stricture	19	4·	1	·1	—	—
Rheumatism	472	100·4	27	5·1	—	—
Gout	3	·6	—	—	—	—
Disease of the Bones and Joints	13	2·7	1	·1	—	—
Inflammation of the Eyes	57	12·1	1	·1	—	—
Otitis and Deafness	19	4·	2	·3	—	—
Erysipelas	10	2·1	—	—	—	—
Scrofula	10	2·1	3	·5	—	—
Bubo (*Symp.*)	122	25·9	—	—	—	—
Phlegmon and Abscess	1,075	228·7	3	·5	1	·1
Ulcer	417	88·7	18	3·4	—	—
Psora	14	2·9	—	—	—	—
Eruptions, &c.	51	10·8	1	·1	—	—
Dyspepsia and Debility	290	61·7	10	1·9	1	·1
Dropsy	7	1·4	1	·1	—	—
Worms	19	4·	—	—	—	—
Headache	17	3·6	—	—	—	—
Wounds and Injuries	1,017	216·3	7	1·3	4	·7
Burns and Scalds	31	6·5	—	—	—	—
Hernia	7	1·4	4	·7	—	—
Drowned	-	-	-	-	22	4·1
Poisoning	2	·4	-	-	2	·3
Asphyxia	1	·2	-	-	1	·1
TOTAL	7,954	1692·3	273	52·	122	23·2

TABLE, No. 2.

SHOWING the Number of DAYS' SICKNESS from each DISEASE, and from INJURIES, the Average Number of Men Sick Daily, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Continued and Remittent Fever	6,333	932	7,265	19·9	4·2
Intermittent Fever - - -	1,198	21	1,219	3·3	·7
Small Pox - - - - -	1,163	3,557	4,720	12·9	2·7
Disease of the Brain - -	7	53	60	·1	—
Apoplexy - - - -	193	- -	193	·5	·1
Epilepsy - - - -	94	100	194	·5	·1
Paralysis - - - -	104	307	411	1·1	·2
Insanity - - - -	73	226	299	·8	·1
Delirium Tremens - - -	161	76	237	·6	·1
Neuralgia - - - -	73	- -	73	·2	—
Vertigo - - - -	64	- -	64	·1	—
Inflammation of the Lungs and Pleura - - - -	1,547	729	2,276	6·2	1·3
Phthisis and Hæmoptysis -	1,558	1,074	2,632	7·2	1·5
Influenza and Catarrh - -	4,274	110	4,384	12·	2·5
Cynanche - - - -	916	170	1,086	2·9	·6
Asthma - - - - -	86	61	147	·4	—
Disease of the Heart, Functional and Organic - - -	785	458	1,243	3·4	·7
Hæmorrhoids - - -	243	49	292	·8	·1
Varix - - - - -	62	13	75	·2	—
Disease of the Stomach and Bowels - - - -	73	66	139	·3	—
Dysentery - - - -	1,955	1,846	3,801	10·4	2·2
Diarrhœa - - - -	5,740	1,451	7,191	19·7	4·1
Cholera - - - - -	112	66	178	·4	—
Constipation and Colic - -	463	55	518	1·4	·2
Disease of the Liver - -	544	364	908	2·4	·5
Jaundice - - - -	170	- -	170	·4	—
Splenitis - - - -	11	- -	11	—	—

Table, No. 2.—Showing the Number of Days' Sickness from each Disease, &c.—*cont^d.*

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	248	118	366	1·	·2
Syphilis	24,527	6,302	30,829	84·4	17·9
Gonorrhœa	2,991	344	3,335	9·1	1·9
Orchitis	2,593	340	2,933	8·	1·7
Stricture	273	298	571	1·5	·3
Incontinence of Urine, &c.	-	52	52	·1	—
Rheumatism	7,968	2,239	10,207	27·9	5·9
Gout	13	-	13	—	—
Disease of the Bones and Joints	188	113	301	·8	·1
Inflammation of the Eyes	703	164	867	2·3	·4
Otitis and Deafness	302	58	360	·9	·1
Erysipelas	152	99	251	·6	·1
Scrofula	323	158	481	1·3	·2
Bubo (*Symp.*)	3,587	274	3,861	10·5	2·2
Phlegmon and Abscess	11,071	469	11,540	31·6	6·7
Ulcer	10,294	2,224	12,518	34·2	7·2
Psora	184	50	234	·6	·1
Eruptions, &c.	699	221	920	2·5	·5
Dyspepsia and Debility	2,360	1,428	3,788	10·3	2·1
Dropsy	219	16	235	·6	·1
Worms	79	38	117	·3	—
Headache	79	164	243	·6	—
Wounds and Injuries	12,435	1,412	13,847	37·9	8·
Burns and Scalds	314	-	314	·8	·1
Hernia	89	58	147	·4	—
Poison	1	-	1	—	—
TOTAL	109,694	28,423	138,117	378·3	80·4

TABLE, No. 3.

SHOWING the Number INVALIDED from each Ship

CAUSE of INVALIDING.	Adventure.	Algerine.	Argus.	Barrosa.	Conqueror.	Coquette.	Cormorant.	Euryalus.	Gunboats.	Hesper.
Continued and Remittent Fever	2	–	–	1	–	–	–	–	2	–
Intermittent Fever	–	–	–	2	–	–	–	–	–	–
Inflammation of the Brain	1	–	–	–	–	1	–	–	–	–
Insanity	–	–	–	–	–	–	–	–	–	–
Delirium Tremens	–	–	–	–	–	–	–	–	–	–
Epilepsy	–	–	–	1	1	1	–	–	3	–
Paralysis	–	1	–	–	–	–	–	–	1	–
Insolation	1	–	–	–	–	–	–	–	–	–
Inflammation of the Lungs and Pleura	2	–	1	–	–	–	–	–	–	–
Phthisis and Hæmoptysis	1	1	3	2	1	4	1	–	3	–
Disease of the Heart, Functional and Organic	–	–	–	–	–	–	–	–	–	–
Dysentery	2	1	1	–	–	–	8	–	7	3
Diarrhœa	1	–	1	–	1	2	2	–	1	–
Disease of the Liver	–	–	–	–	1	–	–	–	4	–
Inflammation of the Kidneys and Bladder	–	–	–	–	–	–	–	–	–	–
Syphilis	2	1	–	2	6	3	6	6	6	–
Orchitis	–	–	–	–	–	–	–	–	–	–
Stricture	–	–	–	–	–	–	–	–	–	–
Rheumatism	–	–	–	1	5	–	–	1	7	3
Diseases of the Bones and Joints	–	–	–	–	–	–	–	–	–	–
Inflammation of the Eyes	–	1	–	–	–	–	–	–	–	–
Otitis and Deafness	–	–	–	–	–	–	–	–	–	–
Scrofula	–	–	–	–	–	–	–	–	1	–
Abscess	–	–	–	–	–	*a* 1	–	–	–	–
Ulcer	–	–	–	1	–	–	1	–	3	–
Eruptions, &c.	–	–	–	–	–	–	–	–	–	–
Dyspepsia and Debility	3	–	–	–	–	–	–	–	2	1
Dropsy	–	–	–	–	–	–	–	–	–	–
Wounds	–	–	–	–	–	1	–	2	–	–
Hernia	–	–	–	–	–	–	–	1	–	–
TOTAL	15	5	6	10	15	13	18	10	40	7

a Fistula.

TABLE, No. 3.

employed on the CHINA STATION.

Leopard.	Laren.	Marines, Japan.	Osprey.	Pelorus.	Perseus.	Princess Charlotte.	Princess Royal.	Rattler.	Rifleman.	Scylla.	Severn.	Swallow and Dove.	TOTAL.
–	–	–	–	–	1	–	–	–	–	–	–	–	6
–	–	–	–	1	–	–	–	–	–	–	–	–	3
–	–	–	–	–	–	–	–	–	–	–	–	–	2
–	–	–	–	–	1	–	1	–	–	–	–	–	2
–	–	–	–	–	–	1	–	–	–	–	–	–	1
–	–	–	–	–	–	–	1	–	–	1	–	–	8
–	–	–	–	–	–	1	–	–	–	–	–	–	3
–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	1	–	–	–	1	–	5
2	1	1	–	3	–	1	10	–	–	5	5	2	46
1	–	–	–	4	–	1	–	–	–	–	–	–	6
–	–	–	–	1	–	2	–	–	–	1	–	1	27
–	–	–	–	1	1	–	–	–	–	–	–	–	10
–	–	–	–	1	2	–	–	–	1	–	1	–	10
–	–	–	–	–	–	–	–	–	–	1	–	–	1
2	–	3	1	3	1	1	4	3	1	3	7	1	62
–	–	–	–	–	–	–	–	–	–	–	1	–	1
–	–	–	1	–	–	–	–	–	–	–	–	–	1
1	–	–	1	1	1	1	1	1	–	2	–	1	27
–	1	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	–	–	–	–	1
1	–	–	–	1	–	–	–	–	–	–	–	–	2
–	1	–	–	1	–	–	–	–	–	–	–	–	3
–	–	–	a 2	–	–	–	–	–	–	–	–	–	3
–	–	3	–	2	–	–	4	–	1	–	2	1	18
–	–	–	1	–	–	–	–	–	–	–	–	–	1
1	–	–	–	–	–	1	1	–	1	–	–	–	10
–	–	–	–	–	–	–	–	–	–	–	1	–	1
1	–	1	–	–	1	–	1	–	–	–	–	–	7
–	–	–	–	1	–	–	–	–	–	1	–	1	4
9	3	8	6	20	8	9	24	4	4	14	18	7	273

TABLE, No. 4.

SHOWING the Number of DEATHS in each Ship

CAUSE of DEATH.	Adventure.	Argus.	Barrosa.	Conqueror.	Coquette.	Cormorant.	Coromandel.	Euryalus.	Gunboats.	Hesper.
Continued and Remittent Fever	–	–	1	–	–	1	–	–	1	1
Small-pox	–	1	–	8	–	–	–	–	1	–
Inflammation of the Brain	–	–	–	–	1	–	–	–	–	–
Apoplexy	–	–	–	–	1	–	–	–	–	–
Epilepsy	–	–	1	–	–	–	–	–	–	–
Delirium Tremens	–	–	–	–	–	–	–	–	–	1
Insolation	–	–	–	–	–	–	–	–	–	–
Insanity	1	–	–	–	–	–	–	–	–	–
Paralysis	–	–	–	–	–	–	–	–	1	–
Inflammation of Lungs and Pleura	–	1	1	–	–	–	–	–	–	–
Phthisis	–	–	–	1	–	1	–	–	3	1
Disease of the Heart	–	–	–	–	–	–	–	–	–	–
Peritonitis	–	1	–	–	–	–	–	–	–	–
Diarrhœa	–	–	–	1	–	–	–	–	–	–
Dysentery	–	1	1	1	–	2	–	–	1	–
Cholera	–	–	–	–	1	5	–	–	–	1
Disease of the Liver	–	–	–	1	–	–	–	–	1	–
Phlegmon and Abscess	–	–	–	1	–	–	–	–	–	–
Debility	–	–	–	–	–	–	–	–	–	–
Wounds and Injuries	–	–	–	–	–	1	–	1	–	–
Drowned	–	–	–	3	–	1	–	–	2	1
Asphyxiated by fumes from a charcoal stove	–	–	–	–	–	–	1	–	–	–
Alcoholic Poisoning	–	–	–	–	–	–	–	–	–	–
TOTAL	1	4	4	16	3	11	1	1	10	5

a Pelvic Abscess.

TABLE, No. 4.

employed on the CHINA STATION.

Insolent.	Leopard.	Leven.	Marines, Japan.	Osprey.	Pelorus.	Perseus.	Princess Royal.	Rattler.	Rifleman.	Scylla.	Severn.	Slaney.	Swallow and Dove.	TOTAL.
–	1	–	1	–	–	–	2	–	–	–	–	–	–	8
–	–	–	–	1	–	–	–	–	–	–	1	–	–	12
–	–	–	–	–	–	1	–	–	–	–	–	–	–	2
–	–	–	–	–	–	*b* 1	–	–	–	–	–	–	–	2
–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	1	–	–	1	–	–	–	2
–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	1	–	–	–	–	–	1	–	–	2
–	1	–	–	–	1	–	–	–	–	–	–	–	–	4
–	2	–	1	–	–	–	6	–	1	2	–	–	–	18
–	–	–	2	–	–	–	1	–	–	–	–	–	–	3
–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
1	–	–	1	–	2	1	2	–	–	–	–	1	1	15
–	–	4	–	–	1	2	–	–	–	1	–	–	–	15
–	–	–	–	–	1	–	–	–	–	–	–	–	–	3
–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	1	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	1	–	–	–	1	–	4
7	–	–	–	1	–	–	2	1	1	2	1	–	–	22
–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	1	–	–	–	–	–	–	1	–	–	–	2
8	4	4	6	2	5	5	15	2	2	7	3	2	1	122

b Heat Apoplexy.

TABLE, No. 5.

SHOWING the Names of the SHIPS; the Average Complements, &c.; the Number of Men Sick Daily, in each Ship;

Rate, &c.	NAMES of SHIPS.	Where Commissioned.	When Commissioned.	Number of Guns.	Tonnage.	Horse Power.
Second Rate	Conqueror	Sheerness	24 Nov. 1863	40	2,845	S. 500
	Princess Royal	Devonport	15 Feb. 1864	73	3,129	S. 400
Fourth Rate	Euryalus	Portsmouth	24 Jan. 1862	35	2,371	S. 400
	Severn	Devonport	19 July 1862	35	2,767	S. 500
Fifth Rate	Leopard	Devonport	11 Oct. 1862	18	1,406	P. 560
Sixth Rate	Barrosa	Sheerness	26 Sept. 1862	21	1,700	S. 400
	Pelorus	Devonport	11 Sept. 1863	21	1,464	S. 400
	Scylla	Sheerness	9 Sept. 1863	21	1,467	S. 400
Sloop	Argus	Sheerness	9 Aug. 1862	6	981	P. 300
	Perseus	Devonport	28 Sept. 1862	17	955	S. 200
	Rattler	Sheerness	5 July 1862	17	952	S. 200
Gun Vessel	Algerine	Shanghai	- - -	3	299	S. 80
	Coquette	Portsmouth	7 April 1862	4	677	S. 200
	Cormorant	Sheerness	21 May 1862	4	695	S. 200
	Leven	Hong Kong	2 Dec. 1862	3	300	S. 80
	Osprey	Woolwich	3 Jan. 1863	4	682	S. 200
	Slaney	Shanghai	- - -	3	301	S. 80
Steam Vessel	Coromandel	-	- - -	5	303	P. 150
	Manilla	Hong Kong	1 Jan. 1862	-	295	S. 70
Gun Boat	Insolent	Chefoo	22 Nov. 1864	2	233	S. 60
Surveying Vessel	Rifleman	Woolwich	15 Nov. 1861	4	486	S. 100
	Swallow and Dove	-	- - -	-	-	-
Troop Ship	Adventure	Woolwich	17 April 1862	2	1,794	S. 400
Store Ship	Hesper	Woolwich	2 Mar. 1857	2	808	S. 80
Receiving Ship	Princess Charlotte	Portsmouth	25 April 1857	12	2,443	-
Marines, Japan	- - - - -	- -	- - -	-	-	-

TABLE, No. 5.

Cases; the Total Number of Days' Sickness on Board; the Average Number of and the Number Discharged to Hospital.

Period.	Average Complements.	Average Complements corrected for Time.	Number of Cases of Disease and Injury.	Number of Days' Sickness on Board.	Average Number of Men Sick for Twelve Months.	Ratio per 1,000 of Average Force of each Ship.	Number discharged to Hospital.
Year - -	410	410	968	13,803	36·4	88·7	89
1 Apr. to 31 Dec.	780	585	502	8,427	23·	39·3	58
1 Jan. to 30 June	540	270	278	4,851	13·2	48·8	3
1 Jan. to 30 June	510	255	323	5,013	13·7	53·7	19
Year - -	285	285	277	7,303	20·	70·1	16
Year - -	260	260	562	5,724	15·6	60·	8
Year - -	260	260	496	6,978	19·1	73·4	40
Year - -	255	255	354	6,749	18·4	72·1	6
Year - -	160	160	433	5,514	15·1	94·3	25
Year - -	170	170	286	3,659	10·	58·8	17
Year - -	170	170	284	4,327	11·8	69·4	8
Year - -	50	50	82	1,347	3·6	72·	5
Year - -	80	80	279	2,533	6·9	86·2	20
Year - -	90	90	287	2,950	8·	88·8	32
Year - -	45	45	121	675	1·8	40·	18
Year - -	85	85	218	2,535	6·9	81·1	8
Year - -	50	50	180	1,728	4·7	94·	5
1 Jan. to 31 Mar.	30	10	15	121	3·	30·	—
Year - -	50	50	98	1,240	3·3	66·	—
Year - -	50	50	77	839	2·2	44·	4
Year - -	90	90	197	1,348	3·6	40·	4
Year - -	120	120	146	2,389	6·5	54·1	11
Year - -	180	180	610	5,813	15·9	88·3	21
Year - -	60	60	112	1,285	3·5	58·3	12
Year - -	220	220	126	1,872	5·1	23·1	18
Year - -	440	440	643	11,240	30·7	69·7	32

TABLE, No. 6.

SHOWING the Number of CASES of all DISEASES and INJURIES

DISEASE OR INJURY.	Adventure.	Algerine.	Argus.	Barrosa.	Conqueror.	Coquette.	Cormorant.	Coromandel.	Euryalus.	Hesper.	Insolent.
Continued and Remittent Fever	94	1	20	139	12	15	73	-	7	12	12
Intermittent Fever	4	6	2	5	7	7	3	-	8	7	-
Small Pox	-	-	5	-	59	2	-	-	-	-	-
Disease of the Brain	-	-	-	-	-	-	-	-	-	-	-
Apoplexy	a 7	-	b 1	-	-	1	-	-	-	-	-
Epilepsy	-	-	-	2	2	2	1	-	-	-	1
Paralysis	-	-	-	1	1	-	-	-	-	-	-
Insanity	-	-	-	-	-	3	-	-	-	-	-
Delirium Tremens	4	-	-	-	2	1	1	-	-	-	-
Neuralgia	2	-	-	-	-	-	1	-	2	-	-
Vertigo	4	-	-	-	-	-	-	-	-	-	-
Inflammation of the Lungs and Pleura	9	-	5	3	2	1	-	-	7	-	-
Phthisis and Hæmoptysis	3	1	1	2	1	4	4	-	2	-	-
Influenza and Catarrh	52	10	53	45	144	12	17	-	3	12	2
Cynanche	7	-	3	5	14	4	5	-	5	1	-
Asthma	-	1	-	-	-	-	-	-	-	-	-
Disease of the Heart, Functional and Organic	-	-	2	4	8	-	1	-	1	-	-
Hæmorrhoids	-	-	2	4	1	6	-	-	1	-	-
Varix	-	-	-	-	-	-	-	-	2	-	-
Inflammation of the Stomach and Bowels	-	-	-	-	1	-	-	-	-	3	-
Cholera	2	-	-	-	-	1	4	-	-	2	-
Dysentery	8	1	1	-	19	2	11	-	2	1	2
Diarrhœa	76	3	119	40	143	45	62	1	61	12	9
Constipation and Colic	4	9	1	14	-	5	2	-	-	3	3
Inflammation of the Liver	2	-	-	-	5	2	-	-	-	1	-
Jaundice	1	-	-	1	2	-	-	-	1	-	-
Splenitis	1	-	-	-	-	-	-	-	-	-	-
Inflammation of the Bladder and Kidneys	-	2	-	-	-	-	-	-	-	-	-
Syphilis, Primary and Secondary	39	6	30	35	76	11	18	4	50	10	7
Gonorrhœa	14	1	18	5	25	3	3	2	-	1	8
Orchitis	3	1	6	8	8	3	6	1	5	1	1
Stricture of the Urethra	-	-	-	-	1	1	-	-	1	2	-
Rheumatism	30	6	34	33	61	26	5	-	8	7	11
Gout	1	-	-	1	-	-	-	-	-	-	-
Diseases of the Bones and Joints	-	1	-	-	1	-	1	-	1	1	-
Inflammation of the Eyes	-	-	2	5	3	1	1	-	-	-	-
Otitis and Deafness	4	-	-	5	-	-	1	-	-	-	-
Erysipelas	-	-	-	-	1	-	-	-	-	-	-
Scrofula	-	-	-	-	-	4	-	-	-	-	1
Bubo (*Symp.*)	9	2	8	6	27	4	2	1	1	-	-
Phlegmon and Abscess	68	7	23	101	154	32	37	1	57	5	11
Ulcer	25	3	16	11	39	4	5	-	9	5	-
Psora	-	-	-	-	-	-	-	-	1	-	-
Eruptions, &c.	1	-	2	1	8	-	1	-	1	-	1
Dyspepsia and Debility	50	5	11	19	7	28	7	2	3	13	5
Headache, &c.	-	-	-	-	-	-	-	-	-	-	1
Dropsy	-	-	-	-	-	-	-	-	-	-	-
Worms	c 1	-	c 5	-	-	2	-	-	d 4	-	-
Wounds and Injuries	83	16	63	65	128	44	15	1	33	12	2
Burns and Scalds	1	-	-	2	6	3	-	1	-	1	-
Hernia	-	-	-	-	-	-	-	-	2	-	-
Asphyxia	-	-	-	-	-	-	-	e 1	-	-	-
Poisoning	f 1	-	-	-	-	-	-	-	-	-	-
TOTAL	610	82	433	562	968	279	287	15	278	112	77

a 5 Insolation. b Insolation. c Tænia. d 2 Tænia.

TABLE, No. 6.

in each Ship employed on the CHINA STATION.

Leopard.	Leven.	Manilla.	Marines, Japan.	Osprey.	Pelorus.	Perseus.	Princess Charlotte.	Princess Royal.	Rattler.	Riflemen.	Scylla.	Severn.	Slaney.	Swallow and Dove.	TOTAL.
18	11	2	86	52	1	46	1	109	10	22	16	22	15	-	796
2	-	-	28	-	13	9	16	-	3	12	-	1	12	-	145
3	-	-	19	2	-	-	-	-	-	1	-	14	-	-	105
-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
b 1	-	-	2	-	-	5	-	-	b 1	b 1	b 1	-	-	-	20
1	-	-	1	-	-	1	-	1	-	-	1	-	-	-	12
-	-	-	-	-	-	-	-	1	-	-	2	1	-	-	7
-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	4
-	-	-	8	-	2	2	1	1	1	-	1	-	-	-	24
-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	6
-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	7
-	-	-	-	-	-	-	-	-	-	c	-	-	-	-	-
2	2	-	2	1	7	1	-	2	a 1	-	8	5	3	1	58
2	4	-	4	-	3	-	-	13	-	-	3	3	-	1	49
6	4	15	51	29	18	21	-	3	14	19	22	39	5	13	609
5	1	-	11	4	3	12	-	4	1	6	5	1	3	5	105
-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2	1	3	-	3	1	-	4	1	-	4	2	1	-	33
-	-	-	1	-	-	4	-	-	1	-	1	1	-	-	22
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	5
-	6	-	-	-	1	3	-	-	-	-	2	-	-	-	21
-	1	-	-	1	26	3	-	10	-	1	4	-	5	4	102
11	33	9	33	11	63	25	18	3	12	10	28	13	22	19	881
1	4	4	4	-	2	5	-	2	6	11	3	1	6	-	90
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	4	1	-	1	2	-	-	-	6	-	2	-	5	33
-	-	-	1	-	-	-	-	5	-	-	1	-	1	3	16
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	4	15	91	24	50	12	26	55	37	8	45	53	12	13	777
15	4	4	14	4	11	4	1	1	7	6	6	7	4	2	166
13	4	3	14	6	12	8	9	16	3	4	14	4	4	10	167
-	2	-	4	1	2	-	1	-	-	-	2	1	-	1	19
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	6	7	60	14	13	11	11	15	11	7	25	17	21	17	472
3	1	-	-	-	-	1	-	1	1	-	1	-	-	-	13
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	10	6	7	2	1	3	6	1	4	2	1	1	57
-	-	-	3	-	2	-	-	-	-	4	-	-	-	-	19
-	-	-	2	-	1	-	-	-	1	-	4	2	1	-	10
-	-	-	2	-	1	-	-	1	-	-	-	-	1	-	10
8	-	-	9	2	4	3	1	10	6	3	11	1	3	1	122
56	12	12	66	37	110	27	11	46	49	20	70	21	21	21	1,075
11	5	1	14	4	49	28	1	108	20	4	10	26	12	7	417
-	-	-	6	-	1	-	-	-	-	-	4	1	1	-	14
1	1	1	3	2	3	5	-	15	4	1	-	-	1	-	51
2	10	3	5	2	8	5	15	6	26	23	6	10	7	12	290
2	1	-	-	-	-	1	-	-	3	7	1	-	-	1	17
-	-	-	1	-	-	-	-	2	-	-	3	1	-	-	7
-	-	2	2	-	-	1	-	-	-	-	2	-	-	-	19
51	10	15	78	15	75	36	12	59	59	17	37	67	15	9	1,017
1	-	-	2	-	1	-	1	4	-	3	-	4	1	-	31
-	-	-	1	-	1	-	-	1	-	-	1	-	-	-	7
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	f 1	-	-	-	2
277	121	98	643	218	496	286	126	502	284	197	354	323	180	146	7,954

c By Charcoal. f By Fish. g By Alcohol.

AUSTRALIAN STATION.

Australian Station.

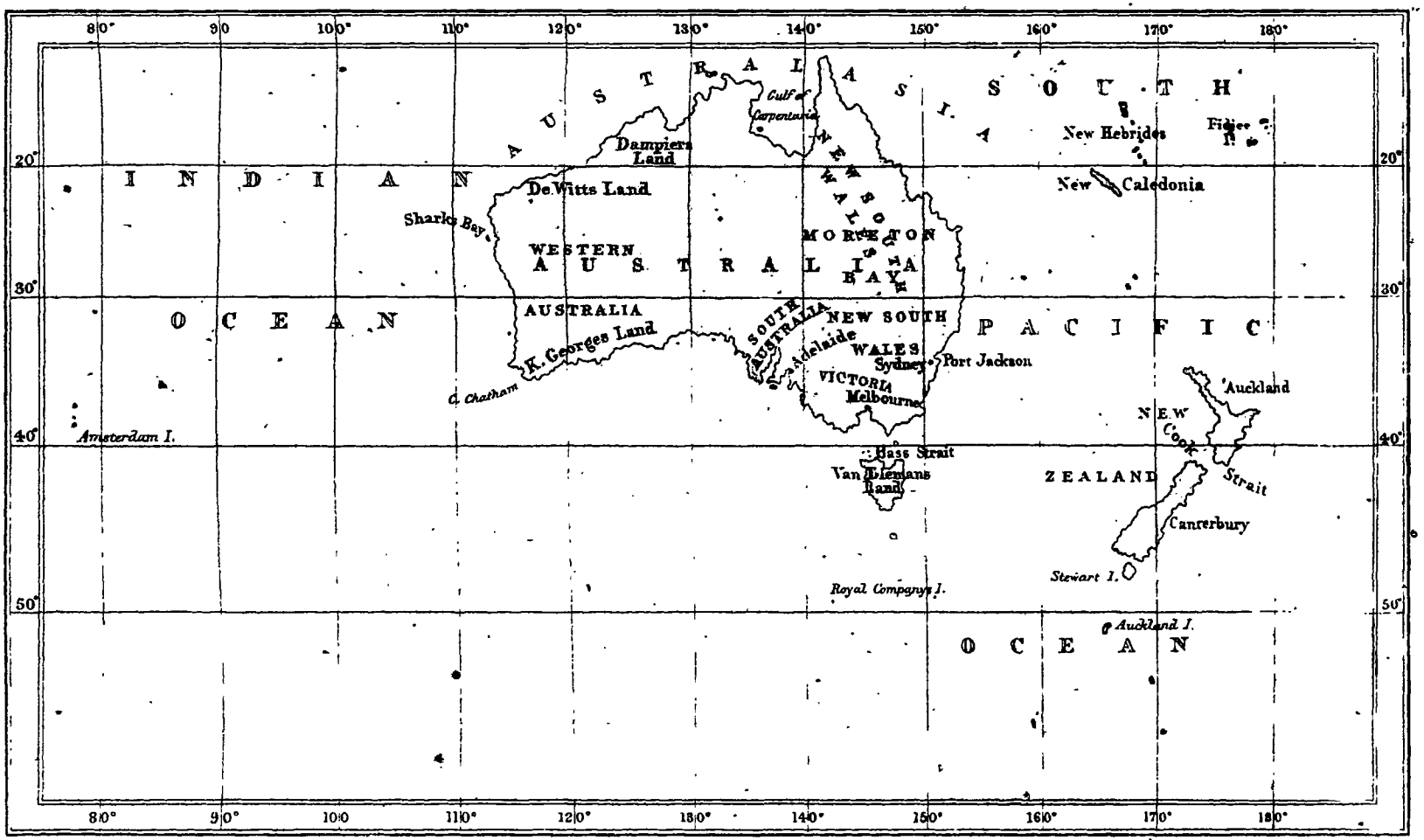
THE squadron on this station comprised one vessel of the fifth-rate; two of the sixth-rate; two sloops; and one gun-vessel. There was also a small detachment of marines serving on shore at Cape York. The returns from all the vessels were for the whole year. The mean force corrected for time was 1,120. There were 1,625 cases of disease and injury under treatment, being in the ratio of 1,450·8 per 1,000 of mean force. Of these twenty-five were invalided and twelve died; the former being in the ratio of 22·3 per 1,000, and the latter of 10·7. The ratio of cases placed on the sick-list is in excess of that of the preceding twelve months; but the invaliding rate is somewhat lower, and the ratio of mortality not one-half of what obtained during that period.

The daily loss of service from fevers was in the ratio of 1·4 per 1,000 of mean force; from diseases of the brain and nervous system, 1·7; diseases of the respiratory organs, 6·5; of the heart and bloodvessels, ·4; of the alimentary canal, 2·6; of the genito-urinary organs, 2·8; from rheumatism, 5·; from diseases of the bones and joints, ·1; of the special senses ·6; of the skin and cellular tissue, 11·3; from dyspepsia and debility, 1·4; and from wounds and injuries of various kinds, 9·4. The average number of men sick daily in the squadron was 51·9, which is in the ratio of 46·3 per 1,000 of mean force, being below the sick-rate of the previous year. As the ratio of cases entered on the sick-list was considerably higher than during the previous twelve months, it is thus evident that they were either of a more trivial character, or less chronic in their nature than during that period.

Fevers.—Thirty-five cases of primary fever were under treatment during the year, but there was no loss to the service, either by invaliding or mortality, from them. The total days sickness on boardship and in hospital, occasioned by them, was 598, so that the average duration of each case on the sick-list was as nearly as possible seventeen days.

There

AUSTRALIAN STATION.



There were two cases of primary fever in the Brisk, one of which appears to have been of considerable severity. It occurred in a boy, and was of the specific enteric type, the characteristic rose-coloured eruption being well marked. No information is given as to the origin of the fever, nor indeed anything further than that he remained on the sick-list at the end of the year, having been then thirty-eight days under treatment. Australian Station.

In the Curaçoa there were seventeen cases of primary fever, twelve of which are stated to have been of an ephemeral nature, although each case would appear to have been, on an average, eight days on the sick-list. The average duration of each of the remaining five cases was about fifty-five days. Three of these occurred in the persons of young officers who had landed at Norfolk Island and slept on shore. In the most protracted case, the young gentleman was four days on the island, the ship having gone to sea on account of the inclemency of the weather and the insecurity of the anchorage. He had got thoroughly wet with rain, and having no change of clothing was obliged to allow his clothes to dry on him. He had also slept, during his stay on shore, on the ground-floor of a cottage situated on swampy land. On the day after he rejoined the ship he presented himself complaining of general malaise. There was considerable febrile reaction, the tongue was furred, and there was headache and nausea. The fever was of the remittent type, characterised by the great urgency of its symptoms and by the rapid prostration of the system which it occasioned. On the fourth day after being placed on the sick-list there was epistaxis to a considerable extent; on the fifth day he was delirious; on the seventh day the delirium was of the low muttering character, the tongue was thickly coated, the lips were dry and cracked, the teeth covered with sordes, and the pupils dilated. On the eighth day urine was passed involuntarily in bed, but on the ninth day there was marked remission of the more urgent symptoms. On the previous evening there had been some slight diaphoresis, and in the morning the pulse was less frequent, the tongue had become moist and the lips clean, and he was quite conscious, although so much reduced as to be unable to articulate to express his wants. He continued to progress favourably for three days, when there was an exacerbation of his symptoms; the pulse became rapid again, the tongue dry, sordes again collected on the teeth, and he became incoherent and wandering. These

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symptoms increased in severity, and superadded to them there was muscular jerking of the lower extremities and twitching of the hands. On the 11th of July, thirty-two days after being placed on the sick-list, the report of the surgeon* of the ship is:—

"No material change; is becoming lower and lower; pulse scarcely perceptible at the wrist; is unconscious to external impressions."

Two days after this, however, signs of improvement took place; on the 25th of July he perspired all night, it appears, and from that date he steadily and slowly progressed favourably. His convalescence was naturally slow, and he was not discharged to duty until he had been 102 days under treatment.

Formidable as this case was, it was quite equalled in severity by one of the other cases, which was placed on the sick-list about a fortnight after the vessel left Norfolk Island. In this instance also the young gentleman had slept on shore, and had probably been exposed to the same deleterious influences. Both were examples of what has been termed pernicious remittent fever. The third case contracted on the island was of less severity, although even in that instance the patient was forty days under treatment.

It is a remarkable circumstance that a number of officers and men who landed at the same time with these officers, do not appear to have been attacked by any form of febrile disease. Two parties appear to have landed at different times, according to the following statement, which, with the exception of a detailed history of their progress and treatment, is the only reference to these cases of fever that appears in the return from the vessel:—

"——, after a fine run, anchored off Norfolk Island on the 9th of June. Twelve officers and four men landed, having leave until the following morning, as there was some distance to walk. A gale sprung up in the night, and, as the anchorage was insecure, the ship was obliged to put to sea, and could not return until the 12th. Rain set in also at the same time, and all got thoroughly wet, having walked over the hill in the morning in the hope of finding the ship. Having no change of clothing they were obliged to allow their clothes to dry on them, the day being cold."

With the exception of the officer whose case is given above, all

* Dr. R. Picken.

all this party slept on shore for three nights. He slept a fourth night, returning to the ship on the morning of the 13th. On the 14th he felt ill, and on the 15th he was placed on the sick-list. When the ship returned to Norfolk Island on the 12th, a party of fifteen officers, and the band, consisting of thirteen men, landed and remained on shore all night, returning to the ship on the afternoon of the 13th, when she at once put to sea. In this party were the other two officers whose cases are referred to. All appear to have been circumstanced alike while on shore, sleeping in small single-storied houses, built almost on the edge of a swamp. One of the officers, in whom the disease was mildest, was placed on the sick-list on the eleventh day after leaving the island, and the other on the fifteenth. The surgeon says :— Australian Station.

"I can ascribe no other cause for the illness of these officers excepting malarious influence. The natives (late Pitcairn Islanders) say that fever is unknown; but I saw one well-marked case of ague amongst them."

There were sixteen cases of primary fever in the Eclipse. With the exception of one case of the remittent type, which was sent to hospital, they appear to have been of an ephemeral character, and were probably dependent upon the frequent exposure to heavy weather to which the ship's company were subjected, the vessel, while at sea, having been in no fewer than twenty-two gales of wind during the twelve months, some of them lasting four or five days.

The singular immunity from febrile disease, and especially from periodic fevers, enjoyed by the marine detachment stationed at Somerset, Cape York, is thus commented on by the medical officer* in charge :—

"It is a remarkable fact, and one which cannot be wholly accounted for on the assumed preventive influence exercised by the absence of mangrove swamps and other collections of stagnant water, the porosity of the soil, and the prevalence for nine months of the year of the south-east trade wind, that while all the other settlements founded in intra-tropical and several in extra-tropical Australia have been in the beginning, and some continue even now, subject to annual visitations of periodic fevers, not a single case of disease attributable to noxious atmospheric conditions has occurred in this settlement of Somerset, situated some hundreds of miles nearer the equator than either of them, since it was formed, eighteen months ago.

"During

* Surgeon T. J. Haran.

Australian Station.

"During this period every variety of climate to which this spur of the Cape York peninsula is exposed annually, from the comparatively cool winters and spring, when the south-east trade blows with the greatest force, to the relaxing heat and heavy rains of summer and autumn, when light and variable winds, chiefly from the north-west, and frequent calms for the most part prevail, was experienced, and with the singular result that the sanitary status of the men seemed to be improved by increased temperature in summer and autumn, if a diminished sick-list may be regarded as proof to that effect. It would be premature, however, to assume that, because the men do not seem to have as yet suffered any ill effects from an eighteen months' residence in a tropical climate, they will enjoy the same immunity indefinitely, and for this important reason, that, although the climate is undoubtedy healthy in all other respects, the mean annual temperature for 1865, 80° 2', conclusively demonstrates that it must be relaxing, and therefore likely to be sooner or later injurious, according to the physical capabilities of those exposed to its influence. But, notwithstanding this serious disadvantage, it is satisfactory to know that men can be sent to this settlement without apprehension as to the existence of endemic disease of any kind, and that a person in ordinary health on arrival will in all probability retain it for several years, provided the usual precautions against undue exposure to the solar heat, and hygienic rules, which should be observed in all tropical climates, be not neglected. For, although the men were often unavoidably exposed to a high degree of solar heat at this settlement, and escaped with impunity, while the south-east trade prevailed; two of them were injured by it in calm weather, and these exceptions prove that the sun is no more to be trifled with in healthy Somerset than in the most pestilential swamp in Africa.

"Admitting, then, that solar heat during calms or light winds is likely to be injurious, and that it would be well to avoid it, and follow the hygienic rules which should be adopted in all tropical climates, what can be the reason why periodic fevers should not prevail here, as in other parts of intra as well as extra tropical Australia? It cannot be the porosity of the soil or the non-existence of swamps, for, during the rainy season, the lower grounds in the neighbourhood of the settlement are sodden with wet and of a miry consistence, while, in the intervals between the rains, when the sun, then almost vertical, does appear, damp exhalations from these flats pervade the whole settlement, but do no harm. It does not follow that because there are no swamps there can be no fever, as medical records testify that most virulent fevers have raged in arid regions where there was not a blade of grass or a pool of water to be seen for miles. Neither can it be to the geological formation, nor to the character of the vegetation of the peninsula, for neither differs materially in the characteristics appertaining to each which pervade the entire continent, extra as well as intra-tropical. Even the salutary effects of the south-east trade wind cannot be adduced in explanation, for the most convincing of all reasons; namely, that this wind invariably ceases before the summer or rainy season sets in, and does not resume its full influence until some time after its termination,

termination, and it is during this season that periodic fevers prevail in settlements some hundreds of miles to the southward of this. I can therefore only account for this most desirable immunity by attributing it to some peculiarity of climate, similar to that which obtains at the Seychelles Islands, Singapore, &c., assisted in some measure by a combination of the favouring adjuvants just enumerated; for, separately, none of them can be regarded as a preventive of fever, although, in a general sanitary point of view, they do exercise considerable influence."

Diseases of the Brain and Nervous System.—There was a considerable increase in the ratio of cases coming under this head, as compared with the previous year. Twelve cases of neuralgia occurred in the squadron, but no information is given in connection with them. There were also five cases of paralysis. Four of these occurred in one vessel, the Eclipse, and are attributed by the surgeon* of the ship to the frequent wet state of the decks, and of the men's clothing and bedding, consequent upon the heavy weather they so frequently experienced. He says:—

"On one occasion, during a gale of wind off Wellington, that lasted from the 22nd to the 25th of February, the vessel shipped so much water on the forecastle, and such quantities found their way down the fore-hatchway, that old petty officers assured me that when they jumped out of their hammocks they stood up to their breasts in water, and that the bottoms of their hammocks were wet. Several wettings, such as that one, although I should hope none quite so bad, have been of such frequent occurrence, that to nothing else can I attribute the cases of paralysis that have happened."

There were seven cases of delirium tremens in the squadron. Each vessel, with the exception of the Curaçoa, had one case. In that vessel there were two. Two cases occurred in the persons of warrant officers; three in petty officers; one in a non-commissioned officer of Marines, and one in a private Marine.

Diseases of the Organs of Respiration.—A death from empyema occurring in a Marine of the detachment at Cape York is entered on Table IV. The disease was the result of a spear-wound of the chest, sustained in the month of September of the previous year, during an attack by natives on the encampment at Somerset. The case was one of so interesting a character, and is so fully reported, that its history

* Dr. S. A. Willis.

Australian Station.

tory, as recorded by the surgeon of the detachment, is given in detail in the Appendix.*

There was a decrease in the ratio of cases of disease of the respiratory organs as compared with the preceding year, which is altogether attributable to fewer number of cases of common colds being placed on the sick-list. There were eight cases of phthisis under treatment in the squadron, three of which were invalided, and two terminated fatally.

Diseases of the Alimentary Canal.—As compared with the preceding twelve months, there was a decrease in the ratio of cases coming under this head, equal to 16·3 per 1,000 of mean force. This was, fortunately, almost altogether attributable to the less prevalence of dysentery in the squadron.

There was a fatal case of gastritis in the Curaçoa, occurring in the person of a young officer, and occasioned by irregular habits. The attack was characterised by great nervous prostration, extreme irritability of the stomach, pain at the epigastrium, a small, rapid, feeble pulse, and coldness of the extremities. None of the remedies directed against these symptoms appear to have had much effect, and he sank exhausted after two days' illness. For a fortnight or three weeks previous to his being placed on the sick-list he had been very intemperate, and had taken little or no solid food for a week.

There were nine cases of dysentery in the squadron, eight of which occurred in the Eclipse. During the preceding year the ship's company of that vessel had suffered much from the same disease, while in camp in New Zealand, during the operations against the Maories; and several of the cases that occurred during the present period were relapses of disease contracted at that time. Very little information, however, is given in connection with them in the returns from the ship.

A mild case of dysentery occurred in the Salamander at Sydney. Diarrhœa was somewhat prevalent on board at the time, and was attributed to the use, for drinking purposes, of water which was slightly brackish. On discontinuing the use of this water no further cases occurred.

There were thirteen cases of colic in the Curaçoa, ten of which occurred during the first quarter of the year. They were

* Appendix, No. 3, p. 29.

were of considerable severity, and appear to have been attributable to lead-poisoning. The surgeon of this ship says they—

". . . . were almost confined to artificers and men who had been living for some time on shore at the naval depôt at Auckland. The symptoms resembled those caused by lead-poisoning, and in some cases were persistent. There was no spring water for their use, and they had to drink and use, for culinary purposes, rain-water collected from the roof of the building, which ran into iron tanks. The building is shingled over, and painted with white lead."

Diseases of the Genito-Urinary Organs.—There was a trifling increase in the total ratio of cases coming under this head as compared with the preceding year, but the ratio of syphilis is lower. There was, indeed, very little syphilitic disease in the squadron, and the medical officer bears testimony to the immunity which ship's companies employed on this station enjoy in this respect. The surgeon* of the Esk says:—

"For the eleven months which comprise the period of this journal, only two cases of syphilis have occurred, and one of gonorrhœa; and, periodically, the men have had the usual leave of four days, when an opportunity offered, at Sydney, Melbourne, Auckland, and Wellington."

The surgeon of the Curaçoa also states that venereal affections are not common, considering the amount of leave the men have; but he remarks that prostitution "has much increased in Auckland within the last twelve months,"—a circumstance which he attributes to the large influx of female immigrants of the lower orders, who, on their arrival, finding no employment for them, are driven by destitution to vicious habits.

Rheumatism.—One hundred and twenty-seven cases of rheumatism were under treatment during the year, being in the ratio of 113·3 per 1,000 of mean force. This exceeds the ratio of the preceding year by 8·2 per 1,000. One case of chronic articular rheumatism, and one severe case of sciatica, were invalided.

In Table IV., under diseases of the bones and joints, a fatal case is entered. This occurred in the person of a seaman of a Curaçoa, and at first presented all the characters of rheumatism

* Dr. George Duncan.

Australian Station.

rheumatism affecting the right knee. In a few days, however, the symptoms assumed a very grave character; the knee became swollen, was excessively painful on motion, or on any attempt to examine it by manipulation; and he became violently delirious. On the eighth day after his entry on the sick-list, there was less swelling of the knee, but there was, for the first time, a very indistinct feeling of fluctuation in its inner side, just above the patella. He had slept tolerably well during the night, was quite sensible when spoken to, and the pain had much subsided. The tongue was clean, the surface of the body cool, and the pulse 95, small. He continued quiet and composed until about 1 p.m.; ate his dinner, and drank a glass of beer, conversing comparatively rationally with his fellow-patients, when his breathing suddenly became rapid; the pulse 140, and scarcely perceptible at the wrist; the eyes were upturned; he became unconscious, and lay groaning and evidently sinking. He expired at 1.45 p.m. The swelling, which had greatly subsided from the knee, had became more diffuse, and extended up the thigh. Unfortunately, the region of the affected knee-joint was the only part examined after death.

"On making an incision from about three inches above the joint to a corresponding distance below, and cutting down to the femur, about two ounces of pus escaped; there was a small opening into the capsular ligament. Patches of lymph and deposits of pus coated the synovial membrane, which was much inflamed throughout, and of a dark purple colour. No further examination was made."

The immediate cause of death is thus left a matter of conjecture.

Wounds and Injuries.—One death occurred from a gun-shot wound sustained in action with the natives of Tanna, Port Resolution, New Hebrides.

Six men were drowned; two by being capsized in a boat in the rollers outside the heads at Port Jackson; one by attempting to swim to the shore; one by falling off a pier in Sydney Harbour; one by falling off the sheet anchor while going into harbour; and one by falling overboard while engaged fastening a boat astern.

Altogether there were twelve deaths in the squadron; five being the result of disease, and seven of wounds and drowning. The total death-rate was 10·7 per 1,000 of mean force, which is considerably less than one-half the ratio of mortality

of

of the preceding year. The average death-rate of the Australian station, taken for a period of eleven years, was 14·1 per 1,000. The death-rate from disease only, in the present year, was 4·4 per 1,000; in 1864, it was 9·5. Australian Station.

Invalided.—One man was invalided for paralysis; one for insanity; four for diseases of the respiratory organs, three of whom were phthisical; four for functional or organic disease of the heart; two for diseases of the alimentary canal; one for disease of the liver; two for stricture; two for rheumatism; two for ulcer; one for dyspepsia; four for the effects of wounds and injuries; and one for hernia; making a total of twenty-five, which is in the ratio of 22·3 per 1,000 of mean force, being a slight increase as compared with the invaliding rate of the previous year.

TABLE, No. I.

SHOWING the Number of CASES of all DISEASES and INJURIES, and the Number INVALIDED and DEAD, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Continued and Remittent Fever	35	31·2	—	—	—	—
Intermittent Fever	4	3·5	—	—	—	—
Epilepsy	1	·8	—	—	—	—
Paralysis	5	4·4	1	·8	—	—
Insanity	2	1·7	1	·8	—	—
Delirium Tremens	7	6·2	—	—	—	—
Neuralgia	12	10·7	—	—	—	—
Inflammation of the Lungs and Pleura	11	9·8	1	·8	1	·8
Phthisis and Hæmoptysis	8	7·1	3	2·6	2	1·7
Influenza and Catarrh	140	125·	—	—	—	—
Cynanche	43	38·3	—	—	—	—
Disease of the Heart, Functional and Organic	7	6·2	4	3·5	—	—
Hæmorrhoids	2	1·7	—	—	—	—
Disease of the Stomach and Bowels	1	·8	—	—	1	·8
Dysentery	9	8·	1	·8	—	—
Diarrhœa	106	94·6	1	·8	—	—
Constipation and Colic	30	26·7	—	—	—	—
Disease of the Liver	3	2·6	1	·8	—	—
Jaundice	1	·8	—	—	—	—

TABLE, No. 1.—Showing the Number of Cases of all Diseases, &c.—*continued.*

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Syphilis	18	16·	—	—	—	—
Gonorrhœa	11	9·8	—	—	—	—
Orchitis	20	17·8	—	—	—	—
Stricture	3	2·6	2	1·7	—	—
Incontinence of Urine, &c.	1	·8	—	—	—	—
Rheumatism	127	113·3	2	1·7	—	—
Disease of the Bones and Joints	8	7·1	-	-	1	·8
Inflammation of the Eyes	17	15·1	—	—	—	—
Otitis and Deafness	6	5·3	—	—	—	—
Erysipelas	3	2·6	—	—	—	—
Bubo (*Symp.*)	4	3·5	—	—	—	—
Phlegmon and Abscess	418	373·2	—	—	—	—
Ulcer	107	95·5	2	1·7	—	—
Eruptions, &c.	9	8·	—	—	—	—
Dyspepsia and Debility	70	62·5	1	·8	—	—
Scurvy	1	·8	—	—	—	—
Dropsy	2	1·7	—	—	—	—
Headache	12	10·7	—	—	—	—
Wounds and Injuries	347	309·8	4	3·5	1	·8
Burns and Scalds	9	8·	—	—	—	—
Hernia	5	4·4	1	·8	—	—
Drowned	-	-	-	-	6	5·3
TOTAL	1,625	1450·8	25	22·3	12	10·7

TABLE, No. 2.

SHOWING the Number of DAYS' SICKNESS from each DISEASE, and from INJURIES, the Average Number of Men Sick Daily, with the Ratio per 1,000 of Force.

DISEASE OR INJURY,	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Continued and Remittent Fever	550	48	598	1·6	1·4
Intermittent Fever - - -	28	- -	28	—	—
Epilepsy - - - -	3	- -	3	—	—
Paralysis - - - -	51	483	534	1·4	1·2
Insanity - - - - -	62	24	86	·2	·1
Delirium Tremens - - -	38	- -	38	·1	—
Neuralgia - - - -	77	76	153	·4	·3
Vertigo - - - - -	104	- -	104	·2	·1
Inflammation of the Lungs and Pleura - - - -	291	141	432	1·1	·9
Phthisis and Hæmoptysis -	308	1,031	1,339	3·6	3·2
Influenza and Catarrh - -	773	- -	773	2·1	1·8
Cynanche - - - -	270	- -	270	·7	·6
Disease of the Heart, Functional and Organic - - -	197	- -	197	·5	·4
Hæmorrhoids - - -	31	- -	31	—	—
Dysentery - - - -	67	165	232	·6	·5
Diarrhœa - - - -	733	- -	733	2·	1·7
Constipation and Colic - -	188	- -	188	5·	·4
Disease of the Liver - -	40	- -	40	·1	—
Jaundice - - -	34	- -	34	—	—

Table, No. 2.—Showing the Number of Days' Sickness from each Disease, &c.—*cont^d.*

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Syphilis	437	83	520	1·4	1·2
Gonorrhœa	338	24	362	·9	·8
Orchitis	366	-	366	1·	·8
Stricture	52	-	52	·1	—
Rheumatism	1,703	358	2,061	5·6	5·
Disease of the Bones and Joints	80	-	80	·2	·1
Inflammation of the Eyes	170	62	232	·6	·5
Otitis and Deafness	84	-	84	·2	·1
Erysipelas	36	-	36	—	—
Bubo (*Symp.*)	81	-	81	·2	·1
Phlegmon and Abscess	2,963	-	2,963	8·1	7·2
Ulcer	1,341	303	1,644	4·5	4·
Eruptions, &c.	54	-	54	·1	—
Dyspepsia and Debility	604	-	604	1·6	1·4
Scurvy	10	-	10	—	—
Dropsy	6	-	6	—	—
Headache	22	-	22	—	—
Wounds and Injuries	3,469	384	3,853	10·5	9·3
Burns and Scalds	89	-	89	·2	·1
Hernia	31	-	31	—	—
TOTAL	15,781	3,182	18,963	51 0	46·3

TABLE, No. 3.

SHOWING the Number INVALIDED from each Ship employed on the AUSTRALIAN STATION.

CAUSE OF INVALIDING.	Brisk.	Curaçoa.	Eclipse.	Esk.	Falcon.	Marines, Cape York.	Salamander.	TOTAL.
Insanity	–	–	–	1	–	–	–	1
Paralysis	–	–	1	–	–	–	–	1
Inflammation of the Lungs and Pleura	–	1	–	–	–	–	–	1
Phthisis and Hæmoptysis	1	–	–	–	2	–	–	3
Disease of the Heart, Functional and Organic	–	1	–	–	–	1	2	4
Dysentery	–	–	1	–	–	–	–	1
Diarrhœa	–	–	–	1	–	–	–	1
Disease of the Liver	–	–	–	–	–	–	1	1
Stricture	–	–	–	2	–	–	–	2
Rheumatism	1	1	–	–	–	–	–	2
Ulcer	–	1	–	–	–	–	1	2
Dyspepsia and Debility	–	1	–	–	–	–	–	1
Wounds	–	2	1	–	–	–	1	4
Hernia	–	–	–	–	–	–	1	1
TOTAL	2	7	3	4	2	1	6	25

TABLE, No. 4.

SHOWING the Number of DEATHS in each Ship employed on the AUSTRALIAN STATION.

CAUSE OF DEATH.	Brisk.	Curaçoa.	Eclipse.	Esk.	Marines, Cape York.	Salamander.	TOTAL.
Inflammation of the Lungs and Pleura	–	–	–	–	1 *a*	–	1
Phthisis	–	1	1	–	–	–	2
Gastritis	–	1	–	–	–	–	1
Disease of the Bones and Joints	–	1	–	–	–	–	1
Wounds and Injuries	–	1	–	–	–	–	1
Drowned	2	2	–	1	–	1	6
TOTAL	2	6	1	1	1	1	12

a Empyema.

TABLE, No. 5.

SHOWING the Names of the Ships; the Average Complements, &c.; the Number of Cases; the Total Number of Days' Sickness on Board; the Average Number of Men Sick Daily in each Ship; with the Number discharged to Hospital.

Rate, &c.	NAMES of SHIPS.	Where Commissioned.	When Commissioned.	Number of Guns.	Tonnage.	Horse Power.	Period.	Average Complements.	Average Complements corrected for Time.	Number of Cases of Disease and Injury.	Number of Days' Sickness on Board.	Average Number of Men Sick Daily for Twelve Months.	Ratio per 1,000 of Average Force of each Ship.	Number discharged to Hospital.
Fifth Rate	Curaçoa	Portsmouth	22 April 1863	31	1,571	S. 350	Year	335	335	388	3,692	10·1	30·1	4
Sixth Rate	Brisk	Devonport	30 Aug. 1864	16	1,087	S. 250	Year	190	190	246	2,812	7·7	40·5	2
	Esk	Portsmouth	20 May 1863	21	1,169	S. 250	Year	235	235	398	3,174	8·6	36·5	3
Sloop	Falcon	Portsmouth	14 Nov. 1863	17	751	S. 100	Year	170	170	267	2,859	7·8	45·8	5
	Salamander	Sheerness	9 Jan. 1864	6	818	P. 220	Year	90	90	125	1,339	3·6	40·	6
Gun Vessel	Eclipse	Sheerness	29 Sept. 1862	4	700	S. 200	Year	80	80	155	1,565	4·2	52·5	14
Marine Detachment, Cape York			2 Aug. 1864	–	–	–	Year	20	20	46	340	·9	45·	1

TABLE, No. 6.

SHOWING the Number of CASES of all DISEASES and INJURIES in each Ship on the AUSTRALIAN STATION.

DISEASE OR INJURY.	Brisk.	Curaçoa.	Eclipse.	Esk.	Falcon.	Marines, Cape York.	Salamander.	TOTAL.
Continued and Remittent Fever	2	17	16	–	–	–	–	35
Intermittent Fever	1	1	–	2	–	–	–	4
Insanity	–	–	–	1	–	–	1	2
Epilepsy	–	–	–	1	–	–	–	1
Paralysis	–	1	4	–	–	–	–	5
Delirium Tremens	1	2	1	1	1	–	1	7
Neuralgia	–	2	2	4	3	–	1	12
Inflammation of the Lungs and Pleura	3	6	1	1	–	–	–	11
Phthisis and Hæmoptysis	1	1	6	–	–	–	–	8
Cynanche	5	13	4	4	12	1	4	43
Influenza and Catarrh	20	21	9	40	36	8	6	140
Disease of the Heart, Functional and Organic	–	3	1	1	–	1	1	7
Hæmorrhoids	–	–	–	–	1	1	–	2
Inflammation of the Stomach and Bowels	–	1	–	–	–	–	–	1
Dysentery	–	–	8	–	–	–	1	9
Diarrhœa	18	39	6	10	16	7	10	106
Constipation and Colic	–	13	3	1	7	4	2	30
Inflammation of the Liver	–	–	–	–	–	1	2	3
Jaundice	1	–	–	–	–	–	–	1
Syphilis, Primary and Secondary	2 *a*	8	–	3	5	–	–	18
Gonorrhœa	–	2	3	1	5	–	–	11
Orchitis	1	4	6	2	4	–	3	20
Stricture of Urethra	–	–	–	3	–	–	–	3
Incontinence of Urine, &c.	1 *b*	–	–	–	–	–	–	1
Rheumatism	20	15	9	39	32	–	12	127
Disease of the Bones and Joints	–	1	1	–	6	–	–	8
Inflammation of the Eyes	4	1	2	1	5	3	1	17
Otitis and Deafness	2	2	–	–	–	2	–	6
Erysipelas	–	–	3	–	–	–	–	3
Bubo (*Symp.*)	–	1	1	1	–	–	1	4
Phlegmon and Abscess	73	110	15	135	47	7	31	418
Ulcer	13	41	10	28	5	1	9	107
Eruptions, &c.	2 *c*	1	–	4	2	–	–	9
Dyspepsia and Debility	15	7	10	28	4	1	5	70
Scurvy	–	–	–	–	–	1	–	1
Headache, &c.	–	5	–	–	1	2	4	12
Dropsy	–	–	–	2	–	–	–	
Wounds and Injuries	58	65	32	85	72	6	29	34
Burns and Scalds	3	3	2	–	1	–	–	
Hernia	–	2	–	–	2	–	1	
TOTAL	246	388	155	398	267	46	125	1,625

a Condylomata. *b* Phymosis. *c* 1 Tumor.

IRREGULAR FORCE.

Irregular Force.

THERE were forty-three vessels in the Irregular Force in 1865, viz.: one iron-clad; six vessels of the fourth rate; one of the fifth rate; eleven of the sixth rate; seven sloops; four gun-vessels; one steam-vessel; one yacht; two gun-boats; four troop-ships, and five store-ships. Besides the force comprised in these vessels, the crew of the Bombay, which had been burnt in the previous year, have to be added, they being on their passage home in a merchant ship, in the beginning of the year. The total force, corrected for time, was 4,260, and the total number of cases of disease and injury entered on the sick-list, 7,130, which is in the ratio of 1673·7 per 1,000 of mean force, being a slight increase as compared with the preceding year. Of these, 112 were invalided, and thirty proved fatal, the former being in the ratio of 26·2, and the latter of 7· per 1,000, both ratios being below those of the previous year. The returns from one sixth rate, three troop-ships, and three store-ships are for the whole year; from the other vessels the periods vary from one to eleven months.

The daily loss of service from febrile diseases, including the exanthemata, was in the ratio of 1·6 per 1,000; from diseases of the brain and nervous system, ·8; of the organs of respiration, 6·8; of the heart and blood-vessels, ·8; of the alimentary canal, 2·8; of the liver, ·4; of the genito-urinary organs, almost all venereal, 20·; from rheumatism, 5·4; diseases of the bones and joints, ·3; of the special senses, ·8; of the skin and cellular tissue, 15·5; from diseases not classed, 2·1; and from wounds and injuries of various kinds, and hernia, 9·5. The total number of men daily sick was about 300, or in the ratio of 70·2 per 1,000 of mean force.

Fevers.—One hundred and sixty-two cases of fever of a continued or remittent type; seventy-three of ague; ten of small-pox; three of measles; one of scarlatina, and two of varicella,

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varicella, were under treatment during the year, of which one of continued fever proved fatal.

The average duration of each case of primary fever on board ship and in hospital, was between eleven and twelve days; of each case of ague, between eight and nine days; of each case of small-pox, thirty-two days; of each case of measles, forty-two days; of the case of scarlatina, eighteen days, and of each case of varicella, twenty-seven days.

Continued and Remittent Fevers.—These fevers did not present themselves in large numbers in any of the vessels of the force; those in which they were most numerous were, the Basilisk, Bristol, Liffey, Octavia, Scout, Serpent, and Tamar. The fatal case occurred in the Terrible.

There were seven cases of primary fever in the Basilisk during the Christmas quarter of the year, when the vessel was on her passage to China; with one exception, they were of an ephemeral character, and are said to have been due to insolation. In the exceptional case the disease is classed as remittent. It was characterised at its onset by severe head symptoms, which, however, were speedily subdued, and the man made a good recovery.

There were nine cases of primary fever in the Bristol, one of which is classed as continued, and eight as remittent; as the case of continued fever was the first of a severe epidemic of specific yellow fever which occurred in this vessel subsequent to exposure to infection by communication with the Isis, at Sierra Leone, it will be fully commented upon in the Statistical Report for 1866, during which year the epidemic prevailed.

There were thirteen cases of primary fever in the Liffey, all of an ephemeral character; and the same may be said of the cases in the Octavia.

There were seventeen cases of primary fever in the Scout, one of which is styled gastric fever; one is classed as continued, and fifteen as febricula; they occurred chiefly in the Michaelmas quarter of the year, when the vessel was on her passage to the Pacific. With reference to these cases, the surgeon * remarks:—

"On arriving within the tropics early in July, and during almost the whole of the passage through them, there were frequent heavy rains,

* Surgeon James Sproule.

rains, which, together with the excessive heat, and the crowded condition of the lower deck, induced a kind of epidemic of slight fever, chiefly amongst that portion of the crew which had not previously been on foreign service. Some of the cases were so very mild as not to require a place on the sick-list; others, however, were attended with considerable gastric irritation (which was more or less present in all of them) and diarrhœa. In one instance the protration was very great, attended with extreme abdominal tenderness, a thickly coated tongue, and a soft and feeble pulse."

In this case the fever appears to have been complicated with considerable splenic congestion.

All the cases of primary fever in the Serpent were of an ephemeral character.

There were forty-two cases of primary fever in the Tamar, of which thirteen are classed as remittent, and twenty-nine as ephemeral. The average duration of each case of remittent fever was about three weeks, and of each case of ephemeral fever between four and five days. Ten of the cases of the remittent type occurred during the Michaelmas quarter of the year, when the vessel was on her passage to England from China. Little or no information is given in connection with them.

The fatal case of fever occurred in the person of a petty officer of the Terrible, who was placed on the sick-list with symptoms indicating a severe attack of colic. In the evening of the same day he was seized with rigors and vomiting, followed by profuse perspiration. He complained of difficulty of breathing, headache, pains in the limbs, and he suffered from thirst and a sense of numbness in the feet, which were cold. In this condition he was discharged to Haslar Hospital, where acute pleuritic symptoms became developed, under which he sank about a fortnight after his admission.

Small-pox.—A single case of small-pox appears in the returns from the Bristol. It occurred in the person of a seaman who presented himself with all the symptoms characteristic of the premonitory fever of this disease, and who had while on leave been residing with his brother, who was suffering from small-pox. He was at once discharged to hospital. No information is given as to whether he had been previously vaccinated or not.

There was a case of small-pox in the Caledonia. It was of a very modified character, and occurred in a man who bore well-marked vaccination cicatrices. He was under treatment for a boil on the knee at the time he was seized, and had had

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no communication with the shore for some days. The source of infection could not be traced.

An officer of the Dromedary contracted small-pox while on leave, and was taken to the Royal Marine Infirmary at Woolwich, without having had any communication with the ship after the disease made its appearance. Whether he had been previously vaccinated or not is not stated.

Single cases of small-pox occurred in the Himalaya, Megæra, Sparrowhawk, Tartar, and Urgent. In the Terrible there were two cases. In all these vessels the disease was exceedingly modified, and all the persons affected bore good vaccination marks.

Measles.—There were two cases of this form of eruptive fever in the Octavia, both of a mild character. In one, the disease was contracted at Portsmouth; and in the other at the Cape of Good Hope.

A case of measles appears in the returns from the Sphinx, but there is good reason to suppose that it was an ill-developed case of scarlatina. The eruption was rose-coloured, extending over the face, arms, and thorax, and accompanied with sore throat. He was discharged to hospital at Plymouth on the 15th of May, and, a fortnight afterwards, the vessel then being at Pembroke, a well-marked case of scarlatina appeared in the person of a man who was discharged at once to sick quarters.

Diseases of the Brain and Nervous System.—There was a considerable increase in the ratio of cases coming under this head when compared with the preceding year, but the invaliding and death-rates were lower.

There was a death from disease of the brain in the Tamar. It occurred in the person of an officer who was placed on the sick-list on the 17th of July, with sub-acute rheumatism of the right knee, for which he was treated until the 27th of the same month, when all the rheumatic symptoms disappeared, leaving only some thickening round the head of the tibia. On that day, however, he complained of some numbness of the feet. On the afternoon of the 30th of July the lower extremities and the hands became so paralysed that he was unable to stand or to grasp anything; he vomited his food; had visual spectra

spectra and double vision. There was no headache, but he was feverish. On the 31st the irritability of the stomach had ceased, but the teeth and lips were slightly coated with sordes. There was no headache, and the pupils were not affected; visual spectra and double vision continued; the paralysis extended from the hands to the fore-arms; the pulse was 132. At 5 p.m. he became delirious, and becoming comatose soon afterwards died at 7.45 p.m.

The report of the post-mortem examination of the body is very meagre. The brain is said to have been greatly congested, and on a small portion of the cerebellum being submitted to microscopic examination it was found to be softened. The liver was fatty.

A fatal case of heat apoplexy occurred in the person of a stoker of the Greyhound, when the vessel was on the west coast of Africa. The man was brought up from the stoke-hold in a semi-conscious state, which gradually deepened into coma, and death resulted about sixteen hours after his first seizure. The only diseased appearance in connection with the brain, found upon the post-mortem examination of the body, was great congestion of the bloodvessels of the scalp, dura mater, and base of the brain. The substance of the brain was healthy, and there was no effusion into the ventricles.

Ten cases of delirium tremens were entered on the sick-list during the year. Of these three occurred in the persons of commissioned officers; one, in a petty officer; two, in men belonging to the carpenter's crew; two, in stokers; one, in a mess servant; and one in a marine.

Diseases of the Organs of Respiration.—There was a reduction in all the ratios coming under this head, as compared with the preceding year. The reduction in the ratio of cases is equal to 18·2 per 1,000; in the ratio of invaliding to 2·8; and in the death-rate to ·8.

Laryngitis proved fatal to a boy of the Terrible, in Haulbowline Hospital. He was placed on the sick-list on the 29th of June, complaining of sore throat and some difficulty in swallowing, accompanied by general indisposition, and some sympathetic fever. There was no inflammatory appearance of the fauces, and the pain was referred to the larynx. Despite every endeavour to control these symptoms, the voice

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gradually became more husky, and on the 4th of July there was much increase of fever, with flushed face, weak, quick pulse, and towards evening delirium. On the following day there was less fever; more moisture of skin; and less hurried breathing. The pulse continued quick, the tongue furred, but moist; he had less pain in the throat, and appeared to have less difficulty in swallowing, but although there was a slight improvement, his condition was far from satisfactory, and the voice continued as husky as before. On the 6th he continued free from fever, but the pulse was quick; there was a good deal of congestion about the face and ears, and there was frequent hacking cough without expectoration. He sometimes complained of headache, but as a rule made little or no complaint at any time. The voice was scarcely above a whisper. In this condition he was discharged on the following morning to Haulbowline Hospital, where the disease ran to a fatal termination, unchecked by the treatment to which he was subjected. Unfortunately no post-mortem examination of the body was made.

There were no points of any interest in the other diseases coming under this head.

Diseases of the Heart and Bloodvessels.—There was a reduction in the ratio of cases and in the invaliding rate, under this head, as compared with the preceding year, but the death rate is higher.

A boy of the Challenger died from the effects of repeated attacks of profuse epistaxis in Haslar Hospital. The history of the case is thus given by the surgeon* of the vessel:—

"..... æt. 18, boy, fell from aloft on the 21st of October 1864 whilst employed furling the main topsail, striking the right side of the face against the main bitts. There was hæmorrhage from the nose, and ecchymosis of the eye followed; but on these disappearing he was discharged to duty, on the 27th of October. On the 24th of November he was brought to the sick-bay, bleeding in a continuous stream from the right nostril, his clothes saturated in front with blood, and as much, if not more, blood was flowing into his mouth. He was kept erect, his hands raised above his head, the cold douche was employed, and as speedily as possible the nostril was plugged through the anterior outlet. Cotton wool, passed at first lightly and subsequently rolled, proved most efficacious. As soon as this operation was completed, he vomited a very

* Surgeon W. N. Blake.

a very large quantity of coagulated blood, more than once filling a pewter basin which had been used for convenience, keeping the head erect. On the 8th of December, not having had any return of hæmorrhage he resumed his duties, being at the same time cautioned not to stoop nor perform any arduous work. On the evening of the 1st of January 1865, he imprudently volunteered to go on look-out at the masthead, from which he was brought to the deck in a similar state as on the 24th of November. On this attack being subdued he was sent to light duty, but again he over-exerted himself, attempting to wash some clothes; and on the 18th of January the hæmorrhage recurred more profusely than ever, and after the nostril was plugged he vomited a larger quantity than usual.

"As these repeated attacks were no doubt the result of injury to the turbinated bones, and the ship was about to be paid off, he was discharged to Haslar Hospital for observation and treatment, on the 19th of January."

The further history of this interesting case is taken from the hospital report. The boy is said to have been pale looking and out of health on his admission, but there was no reccurrence of hæmorrhage until the 22nd of January, when the following report was made:—

"*22nd*, 10 *a.m.*—Seized with profuse hæmorrhage from the right nostril, followed by great pallor, faintness, giddiness, and coldness of the extremities. He was pulseless for a short time."

The old plug was removed, and the nares replugged with cotton wool saturated with tincture of the sesquichloride of iron; a mixture containing the same tincture was ordered for internal use, and ice was applied over the forehead. This was effectual in arresting the hæmorrhage, and on the 25th, when the plugs came away, it did not recur; on the 26th there was some hæmorrhage from the left nostril; and on the 2nd of February the report was:—

"*February 2nd*, 6 *a.m.*—Again seized with profuse bleeding from the right nostril, and followed by the same alarming symptoms as on the 22nd of January. On the nostril being plugged with cotton wool and tincture of the sesquichloride of iron, the bleeding ceased instantly. 8. 30 *a.m.*—In a state of collapse; surface cold, and lips pale. Pulse scarcely perceptible at the wrist. Complains much of cold and pain in the chest. Has vomited some clotted blood since 6 a.m., but not lately, and the hæmorrhage has now ceased entirely. Small quantities of brandy at short intervals to be given. *Vespere.*—No return of hæmorrhage since the morning, and the skin is now warm. Complains of pain over the right eyebrow, and has vomited at intervals during the day. Bowels slow; much thirst; tongue furred in centre, and dry. Pulse 120, feeble; face pallid; pupils dilated."

After this, bleeding did not recur for some days. He com-

 plained,

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plained, however, of great pain in the right ear, which continued for three days, and then entirely disappeared. He began to regain strength. The pulse was not so frequent, and was stronger, he slept fairly and the appetite was improving. In this condition he continued until 10.15 p.m. of the 8th, when he was seized with profuse arterial hæmorrhage from the left nostril. He was immediately seen, and the bleeding stopped by plugging the anterior and posterior nares, after which some brandy was administered. He expired, however, in a few minutes, so rapid and copious had been the hæmorrhage.

The following is a report of the post-mortem examination of the body, which was made thirty-seven and a-half hours after death :—

"*Body.*—Exsanguineous. Not much emaciation. Slight serous infiltration of the subcutaneous cellular tissue generally.

"*Head.*—The vessels of the scalp contained scarcely any blood. On removing the calvarium, the sinuses and vessels of the dura mater presented the same bloodless appearance. The brain was very pale and generally healthy, but some degree of induration was observed on the left lobe of the cerebellum. No trace of fracture of the base of the skull, or of laceration of any vessel could be detected. On making a vertical section in the median line through the nasal fossæ, and sphenoid bone, nothing was discovered abnormal, excepting increased vascularity of the posterior ethmoidal cells, and sphenoidal sinuses, in which cavities were also seen some small fibrinous clots pretty closely adherent to the subjacent lining membrane."

A seaman of the Rinaldo died of disease of the heart in Haslar Hospital. It appears that he had been long unconsciously labouring under heart disease, but his last attack came on very suddenly after a hurried walk, the most urgent symptoms being dyspnœa, and pain in the chest. He stated that he had never had acute rheumatism. He was immediately discharged to Haslar Hospital, where he only lived six days after admission. Post-mortem examination of the body revealed disease of the mitral valves, there being warty excrescences on the auricular aspect of the valves. On making a section of the walls of the heart, extensive hypertrophy was found with dilatation of the cavities. There were no marked evidences of inflammatory action. In the pericardium there were several ounces of turbid serum. The liver and kidneys were somewhat fatty.

With reference to a number of cases invalided for disease of

of the heart at Haslar Hospital in the Lady quarter of the year, the Inspectors-General* of that establishment remark :—

"The majority of the cases invalided were for palpitation. In many of the cases no bruit could be detected. In the cases where no organic disease of the heart was discovered, the patients presented a very anæmic look, and were so debilitated that the slightest exertion induced tumultuous action of the heart, in some cases approaching to syncope."

Diseases of the Alimentary Canal.—There is an increase in the ratio of cases coming under this head, as compared with the preceding year, equal to 69·3 per 1,000 of mean force; there is also a slight increase in the ratio of invaliding; but the death-rate is lower. The increased ratio of cases is altogether attributable to the prevalence of diarrhœa in an epidemic form in one or two of the ships. In the Liffey there were five cases of dysentery, and 182 of diarrhœa, with reference to which the surgeon† says :—

"Bowel complaints prevailed at Bermuda to a considerable extent during the months of May and June; they subsided in July at Halifax, and again broke out among the officers and ship's company at Quebec in the latter part of August and September, in a severe form, and to a considerable extent. At Quebec the disease prevailed on shore also. At first I attributed the prevalence of the disease to the use of the water from the River St. Lawrence, and then we procured water from a hydrant on shore conveying the water from the St. Charles River, nine miles above its confluence with the St. Lawrence, and afterwards we used condensed water only, but the disease continued in a lesser degree until we were paid off. The principal features of the attacks were their suddenness, being frequently accompanied with vomiting, thirst, considerable prostration bordering on collapse very rapidly setting in, and there being in some cases muscular spasms and cramps of the abdomen. In a few cases dysenteric symptoms set in; but the great mass of cases were characterised by copious fluid stools, passed with some griping, and but little tenesmus, and none of the symptoms indicated the colon or rectum to be particularly implicated.

"Various modes of treatment were adopted as the particular symptoms of the cases seemed to indicate, the diet was carefully regulated, and broad flannel belts covered with duck or drill were recommended to the men, and were in most instances worn by them with a feeling of relief. I am glad to say that we have lost none of our men from this disease, although it has presented some indications of a choleraic tendency."

There were twenty-three cases of dysentery, and eighty-eight

* Dr. Deas, C.B., and Dr. Burn. † Surgeon Charles Sproull.

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eight of diarrhœa in the Tamar, and one of the cases of dysentery proved fatal. The crew of this vessel had enjoyed a fair measure of health until their arrival at Hong Kong on the 28th of May, when diarrhœa and dysentery became very prevalent. Of the twenty-three cases of dysentery that were under treatment, twenty-one occurred in Hong Kong harbour between the above date and the 26th of July. Sixteen of these were sent to hospital, where six of them were invalided. One of the invalids died on the passage to England, which was the only death that occurred from this disease. In the nosological return for the Midsummer quarter, the surgeon* says :—

"There are eighteen cases of dysentery, and thirty of diarrhœa, in the present return. The first case of dysentery occurred twelve days after leaving the Mauritius; the second about twenty-four hours previous to the arrival of the ship at Hong Kong, and all the others in Hong Kong harbour. I believe the climate to be the chief cause of these diseases, but I may state that, since the 15th of October last, the ship's company have been 164 days on salt provisions, and used distilled water during that time. On arriving at Hong Kong they had fresh provisions issued to them five times a week, the same as the other ship's companies; and used water which was supplied from the shore. For the last eighteen or twenty days, however, the water intended for drinking has been boiled and then cooled. The reason why distilled water has not been used since the arrival of the ship here, is, that the engineers and stokers have been cleaning and repairing the boilers. . . . . There were no cases of dysentery after leaving Hong Kong for England, but diarrhœa continued to attack a good many men until the ship rounded the Cape of Good Hope, after which the health of the ship's company improved."

None of the other vessels of the force were much affected by these diseases.

Diseases of the Genito-Urinary Organs.—There is a trifling increase in the ratio of cases of all forms of disease coming under this head as compared with the preceding year, but the invaliding rate is lower. The ships that suffered most numerically from venereal diseases were the Bristol, Caledonia, Himalaya, Octavia, Orontes, and Terrible.

In the Bristol, in which there were thirty-eight cases of syphilis, and twenty-three of gonorrhœa, the diseases were contracted when the ship was fitting out. The surgeon† says :—

"There were thirty-eight cases of syphilis, twenty-three of gonorrhœa

* Surgeon James Long. † Surgeon W. G. I. Ayre.

gonorrhœa, and thirteen of bubo; of which five syphilitic cases, two of gonorrhœa, and six of bubo were sent to hospital. The cases of syphilis treated on board were principally primary sores, soft chancres, healing readily under the use of topical applications. A few indurated sores required the exhibition of mercury. A medical inspection of the men was made before leaving Sheerness, and subsequently after leaving England. Both examinations resulted in the detection of a number of concealed cases of syphilis, as well as several cases of psora."

There were twenty-six cases of primary syphilis, two of secondary syphilis, and two of gonorrhœa in the Caledonia during the Midsummer quarter of the year, when she was fitting out at Devonport. The surgeon,* however, says:—

"Perhaps it would be unjust to attribute the whole amount of this disease to the port of Plymouth, when it is borne in mind that men were drafted to the ship from different localities where the provisions of the Contagious Diseases Act are not enforced."

Elsewhere, remarking on all the cases that occurred in the vessel during the year, he says:—

"It is instructive to note the difference in the results, as far as syphilis is concerned, to men on leave in the home ports, and some of the foreign ports, where special and general leave was granted. Fifty-two cases of syphilis were entered on the sick-list; of this number, twenty-six, exactly one-half, were entered while the ship was fitting out. It is not unreasonable to suppose that, although the men were drafted from different ports, ostensibly in a sound condition (being supposed to have been examined previous to their discharge), the majority of these cases were contracted at Plymouth, where the enactments of the Contagious Diseases Act were in operation. Four more cases were entered within ten days of our departure from England, thus leaving the comparatively small number of twenty-two men infected during six months' service in the Mediterranean, where the crew had frequent leave in ports where registration and surveillance of prostitutes and brothels are enforced."

There were twelve cases of primary syphilis, eighteen of secondary syphilis, and seven of gonorrhœa in the Himalaya. This amount of primary disease is certainly small when the constant communication of the vessel with the home ports is considered. During the Lady quarter of the year, when the ship was for a considerable time in Portsmouth Harbour, under repairs, very few cases of syphilis occurred. The surgeon† remarks:—

"Notwithstanding our long stay in harbour under repairs, with free

* Surgeon Thomas Breen. † Surgeon W. T. Wilson.

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free leave to our men, the 'list' continues free of syphilis. The 'Contagion Act' is now just coming in force, and the police, I must acknowledge, show every wish to assist by removing all infected women to the lock hospital. We compel the men when they present themselves with a chancre to give up the name of the woman, or, failing that, the name of the street and the house, and with this information the police compel all the women residing there to submit to an examination at the hospital, where those with sores are retained. If this system be stringently carried out, disease must be checked."

There were seventy-nine cases of syphilis and twenty-nine of gonorrhœa in the Octavia. No division of syphilis into its primary and secondary forms has been made in the returns from the ship, so that it is impossible to ascertain the precise numbers of each. All this amount of disease may be considered attributable to contagion at Portsmouth, during the fitting-out of the ship. Eight cases of syphilis and three of gonorrhœa were entered on the sick-list in the last fortnight in June, when the vessel was at Portsmouth; forty-three of syphilis and nineteen of gonorrhœa in the Michaelmas quarter of the year, the ship being during that time for the most part at Portsmouth; and twenty-eight of syphilis and seven of gonorrhœa in the Christmas quarter, when the vessel was on her passage to the Cape of Good Hope. The obstinacy with which seamen occasionally conceal these diseases, and the suffering they will undergo rather than have their leave interfered with by being placed on the sick-list, was well exemplified in two instances in the Octavia. The surgeon,* in his remarks on the nosological return for the Michaelmas quarter, says:—

"As this vessel was about to proceed to the East Indian station, knowing how prevalent syphilis was at this time, and several cases having been admitted on the list, which, from being long concealed, had much protracted their cure, I obtained permission to make a more stringent examination of the whole ship's company, which was done on the 24th of September, when twenty-three men were found labouring under diseases requiring treatment, sixteen of whom were affected with syphilis. One of these cases I particularly mention, from the length of time the man, a carpenter's mate, must have concealed the disease. There was an ulcer on the lower part of the abdomen, four inches in circumference, a large chancre on the glans, and phymosis, with considerable swelling of the penis. How he could have continued to perform his duties and go on shore with such an amount of disease was perfectly surprising to all who saw the case. Another man, a quartermaster, had two large suppurating buboes, one in each groin, one of which had opened itself when the

* Surgeon William Richardson.

the man was on shore. Both these cases were sent to Plymouth Hospital."

There were fifty-five cases of primary syphilis, four of secondary syphilis, and forty-six of gonorrhœa in the Orontes. Almost all this disease was contracted in the Home ports, and many of the cases, from being long concealed, were of great severity. Twenty-eight cases of syphilis and four of gonorrhœa were discharged to hospital.

In the Terrible there were thirty-one cases of syphilis and four of gonorrhœa. How many syphilitic cases were of the primary form, and how many of the secondary, it is not possible to ascertain from the returns. The surgeon states that all the primary cases, with very few exceptions, had their origin on the Home station, that many of the cases proved very tedious, and that in several the foundation was laid of other affections of a secondary character, which were even more tedious than the primary disease.

Rheumatism.—There were 478 cases of rheumatism under treatment in the force during the year, which is in the ratio of 112·2 per 1,000 of mean force, being a very slight increase as compared with the preceding year. The invaliding rate, however, was much lower than that of 1864, and no mortality was occasioned by the disease. The average duration of each case on board ship and in hospital was about eighteen days.

Wounds and Injuries.—A man sustained a fatal injury of the spinal cord by falling from aloft, and another man sustained the same kind of injury by falling from the forecastle to the lower troop-deck. In the case of the man who fell from aloft, a seaman of the Himalaya, the lower part of the spine and buttocks were severely bruised by the corner of a troop hammock-box, and the right radius was fractured close to its carpal articulation. It was apparent from the first that the spine was seriously injured from the sudden and complete paralysis of the lower extremities and abdomen. There were no marks of contusion along the spine, nor the slightest indication of displacement. When the shock passed off, there was well-marked priapism, which lasted for some time; and for some days the penis continued in a state of semi-erection. The injury occurred on the 8th of May, and the man died on the 31st. On the 12th of May bed-sores began to form over the sacrum and buttocks. His appetite, however,

Irregular Force.

continued good. Between the 20th and 23rd of May two large sloughs had formed over the sacrum, which on the 25th separated, leaving large chasms and extensive undermining of the surrounding integument. On the 28th the entire left buttock had sloughed away, and the right was fast disappearing. Irritative fever, failing appetite, and purging now set in, and on the following day vomiting, which continued until his death. The following report of the post-mortem examination of the body, and remarks on the case, are by the surgeon of the vessel :—

"The fractured radius was united by cartilage in the process of consolidation. Opened the spinal column by sawing through the vertebral laminæ from the neck to the loins, and dissected out the cord. Opposite the first lumbar vertebra there was a small clot of blood on one side of the cord, entangled in the substance of the medulla and protruding through the torn pia mater, marking the site of injury, where the cord was almost if not completely torn across, being held together merely by the membranes. On holding it between the eye and the light, a vacant space, surrounded by the thin transparent membrane, showed the rupture very distinctly. On the posterior surface of the body of the corresponding vertebra (1st lumbar), there was a rough line, indicating fracture without displacement; but this line did not pass right across, being limited to about the centre of the bone. Over the roughness the dura mater was torn; but, excepting the portion immediately on the rough line, it was entire, and presented a clean polished surface. For a short distance above the rupture the cord was softened and injected, as compared with the healthy cervical portion.

"It is probable, perhaps, that at the instant of injury the fractured vertebra nipped the cord, rupturing it as described, as I do not think it possible for concussion to cause such an injury.

"The pathology of the case was well illustrated,—paraplegia exactly corresponding to the injury. So complete was the paralysis of the sphincters that moving him caused fœces to flow, and pressure upon the pubis emptied the bladder, at the same that digestion, assimilation, and the peristaltic action of the intestines were uninjured. The entire sloughing of the nates was very remarkable, death resulting from the exhaustion and the irritative fever consequent on such extensive mortification. There was no attempt at reparation, no line of demarcation, but a black mass of mortified flesh, oozing forth an inky sanies, exceedingly fœtid, undermining all round; there was no pus, and no granulations. Priapism was also a marked symptom; and the changes in the urine, first normal and gradually changing into a turbid alkaline fluid, copiously depositing a mortar-like deposit of phosphate of lime (?), was characteristic of a serious spinal injury."

Three men sustained fatal fracture of the skull, by falling from aloft; a man was killed by the accidental discharge of his gun whilst he was leaning upon it with the muzzle in his axilla.

axilla. A man died from the effects of a severe compound fracture of the leg, caused by a block falling upon him from aloft; and a man sustained fatal fracture of the pelvis, and various internal injuries, by falling from aloft.

Nine men were drowned; five by falling overboard, two by falling into the sea from a wharf at night, one by falling from a caisson into a dock, and one by being swamped in a shore boat.

An officer who had gone on a shooting excursion to Sparrow Cove, Falkland Islands, was missed by his companions, and no trace of him ever discovered. He is supposed to have fallen or been blown over some precipitous cliffs by a high wind that was then prevailing.

A man was brought off to his ship, very much intoxicated, and a few hours afterwards was found dead.

The total number of deaths from all causes was thirty, being in the ratio of 7· per 1,000 of mean force, which is a reduction, compared with the preceding year, equal to 1·2 per 1,000. The death-rate from disease alone was only 4·4 per 1,000.

Invalided.—One man was invalided for the sequelæ of fever; thirteen for diseases of the brain and nervous system; sixteen for diseases of the respiratory organs, fifteen of whom were consumptive; sixteen for diseases of the heart and bloodvessels; eight for dysentery; four for inflammation of the liver; one for inflammation of the spleen; seven for diseases of the genito-urinary organs; four for rheumatism; six for diseases of the special senses; eight for diseases of the skin and cellular tissue; six for dyspepsia and debility; five for wounds and injuries of various kinds; and seventeen for hernia; making the total number invalided 112, which is in the ratio of 26·2 per 1,000 of mean force, being a reduction, as compared with the preceding year, equal to 4·7 per 1,000.

Table, No. 1.

Showing the Number of Cases of all Diseases and Injuries, and the Number Invalided and Dead, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Continued and Remittent Fever	162	38·	1	·2	1	·2
Intermittent Fever	73	17·1	—	—	—	—
Small Pox	10	2·3	—	—	—	—
Measles	3	·7	—	—	—	—
Scarlatina	1	·2	—	—	—	—
Varicella	2	·4	—	—	—	—
Disease of the Brain	2	·4	—	—	1	·2
Apoplexy	1	·2	—	—	1	·2
Epilepsy	22	5·1	8	1·8	—	—
Paralysis	13	3·	3	·7	—	—
Insanity	5	1·1	1	·2	—	—
Delirium Tremens	10	2·3	—	—	—	—
Neuralgia	23	5·3	1	·2	—	—
Vertigo	5	1·1	—	—	—	—
Inflammation of the Lungs and Pleura	60	14·	1	·2	1	·2
Phthisis and Hæmoptysis	29	6·8	15	3·5	1	·2
Influenza and Catarrh	600	140·8	—	—	—	—
Cynanche	190	44·6	—	—	1	·2
Asthma	4	·9	—	—	—	—
Disease of the Heart, Functional and Organic	46	10·7	14	3·2	2	·4
Hæmorrhoids	14	3·2	—	—	—	—
Varix	5	1·1	2	·4	—	—
Inflammation of the Stomach and Bowels	2	·4	—	—	—	—
Dysentery	37	8·6	8	1·8	1	·2
Diarrhœa	560	131·4	—	—	—	—
Constipation and Colic	75	17·6	—	—	—	—
Inflammation of the Liver	23	5·3	4	·9	—	—
Jaundice	17	3·9	—	—	—	—
Splenitis	3	·7	1	·2	—	—

TABLE, No. 1.—Showing the Number of Cases of all Diseases, &c.—*continued.*

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Inflammation of the Bladder and Kidneys	7	1·6	2	·4	—	—
Syphilis	558	130·9	3	·7	—	—
Gonorrhœa	195	45·7	—	—	—	—
Orchitis	109	25·5	—	—	—	—
Stricture	23	5·3	2	·4	—	—
Incontinence of Urine, &c.	2	·4	—	—	—	—
Rheumatism	478	112·2	4	·9	—	—
Gout	11	2·5	—	—	—	—
Disease of the Bones and Joints	16	3·7	—	—	—	—
Ophthalmia	59	13·8	3	·7	—	—
Amaurosis and Cataract	5	1·1	3	·7	—	—
Otitis and Deafness	16	3·7	—	—	—	—
Erysipelas	13	3·	—	—	—	—
Scrofula	4	·9	2	·4	—	—
Bubo (*Symp.*)	103	24·1	1	·2	—	—
Phlegmon and Abscess	1,283	301·1	1	·2	2	·4
Ulcer	356	83·5	3	·7	—	—
Psora	76	17·8	—	—	—	—
Eruptions, &c.	82	19·2	1	·2	—	—
Dyspepsia and Debility	290	68·	6	1·4	—	—
Scurvy	1	·2	—	—	—	—
Dropsy	6	1·4	—	—	—	—
Worms	4	·9	—	—	—	—
Headache	47	11·	—	—	—	—
Purpura	2	·4	—	—	—	—
Wounds and Injuries	1,303	305·8	5	1·1	8	1·8
Burns and Scalds	62	14·5	—	—	—	—
Hernia	20	4·6	17	3·9	—	—
Drowned	-	-	-	-	9	2·1
Alcoholic Poisoning	1	·2	-	-	1	·2
Submersion	1	·2	—	—	—	—
Missing	-	-	-	-	1	·2
TOTAL	7,130	1673·7	112	26·2	30	7·

TABLE, No. 2.

SHOWING the Number of DAYS' SICKNESS from each DISEASE, and from INJURIES, the Average Number of Men Sick Daily, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Continued and Remittent Fever	1,252	615	1,867	5·1	1·1
Intermittent Fever	490	149	639	1·7	·3
Small Pox	135	186	321	·8	·1
Measles	7	120	127	·3	+
Scarlatina	1	17	18	—	—
Varicella	34	21	55	·1	—
Disease of the Brain	25	119	144	·3	—
Apoplexy	-	22	22	—	—
Epilepsy	81	153	234	·6	·1
Paralysis	160	532	692	1·8	·4
Insanity	28	176	204	·5	·1
Delirium Tremens	68	152	220	·6	·1
Neuralgia	150	40	190	·5	·1
Vertigo	95	-	95	·2	—
Inflammation of the Lungs and Pleura	756	2,135	2,891	7·9	1·8
Phthisis and Hæmoptysis	515	2,246	2,761	7·5	1·7
Influenza and Catarrh	3,448	316	3,764	10·3	2·4
Cynanche	1,169	372	1,541	4·2	·9
Asthma	77	38	115	·3	—
Disease of the Heart, Functional and Organic	486	918	1,404	3·8	·8
Hæmorrhoids	107	65	172	·4	—
Varix	59	89	148	·4	—
Aneurism	-	17	17	—	—
Disease of the Stomach and Bowels	7	204	211	·5	·1
Dysentery	422	174	596	1·6	·3
Diarrhœa	3,450	100	3,550	9·7	2·2
Cholera	-	5	5	—	—
Constipation and Colic	316	39	355	·9	·2
Disease of the Liver	306	227	533	1·4	·3
Jaundice	258	48	306	·8	·1
Splenitis	84	-	84	·2	—

Table, No. 3.—Showing the Number of Days' Sickness from each Disease, &c.—*cont^d.*

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	97	147	244	·6	·1
Syphilis	9,930	14,251	24,181	66·2	15·5
Gonorrhœa	3,381	779	4,160	11·3	2·6
Orchitis	1,693	499	2,192	6·	1·4
Stricture	231	438	669	1·8	·4
Incontinence of Urine, &c.	49	67	116	·3	—
Rheumatism	4,746	3,718	8,464	23·1	5·4
Gout	84	69	153	·4	—
Disease of the Bones and Joints	223	358	581	1·5	·3
Inflammation of the Eyes	763	447	1,210	3·3	·7
Amaurosis and Cataract	20	59	79	·2	—
Otitis and Deafness	204	116	320	·8	·1
Erysipelas	139	272	411	1·1	·2
Scrofula	167	256	423	1·1	·2
Bubo (*Symp.*)	2,078	821	2,899	7·9	1·8
Phlegmon and Abscess	9,626	1,530	11,156	30·5	7·1
Ulcer	5,611	2,085	7,696	21·1	4·9
Psora	620	-	620	1·6	·3
Eruptions, &c.	1,083	508	1,591	4·3	1·
Dyspepsia and Debility	1,353	998	2,351	6·4	1·5
Scurvy	12	5	17	—	—
Dropsy	335	192	527	1·4	·3
Worms	26	25	51	·1	—
Headache	343	182	525	1·4	·3
Wounds and Injuries	12,438	1,730	14,168	38·8	9·1
Burns and Scalds	769	72	841	2·3	·5
Hernia	202	52	254	·6	·1
Purpura	27	-	27	—	—
Alcoholic Poisoning	1	-	1	—	—
TOTAL	70,237	38,971	109,208	299·2	70·2

TABLE, No. 3. - - - - - - -

SHOWING the Number INVALIDED from each Ship - - -

CAUSE of INVALIDING.	Basilisk.	Bristol.	Cadmus.	Challenger.	Enchantress.	Euryalus.	Greyhound.	Harrier.	Highflyer.	Himalaya.	Industry.	Liffey.
Continued and Remittent Fever	–	–	–	–	–	–	1	–	–	–	–	–
Insanity	–	–	–	–	–	–	–	–	–	–	–	–
Epilepsy	–	–	–	1	–	–	–	–	1	1	–	2
Paralysis	–	–	–	–	–	–	–	–	–	–	–	–
Neuralgia	–	–	–	–	–	–	–	–	–	–	1	–
Inflammation of the Lungs and Pleura	–	–	–	–	–	–	–	–	–	–	–	–
Phthisis and Hæmoptysis	1	1	–	1	–	–	–	–	–	–	–	4
Disease of the Heart, Functional and Organic	1	–	–	–	–	–	–	–	–	1	–	1
Varix	–	–		–	–	–	–	–	–	–	–	–
Dysentery	–	–	–	–	–	–	–	–	–	–	–	–
Disease of the Liver	–	–	–	–	–	–	–	–	–	–	–	–
Splenitis	–	–	–	–	–	–	–	–	–	–	–	–
Inflammation of the Kidneys and Bladder	–	–	–	–	–	–	–	–	–	–	–	1
Syphilis	–	–	1	–	–	–	–	–	–	–	–	–
Stricture	–	–	–	–	–	–	–	1	–	1	–	–
Rheumatism	–	–	–	–	–	–	–	–	–	–	–	–
Inflammation of the Eyes	–	–	–	1	–	–	–	–	–	1	–	1
Amaurosis and Cataract	–	–	–	–	–	–	–	–	–	–	–	–
Bubo (*Symp.*)	–	–	–	–	–	–	–	–	–	–	–	–
Scrofula	–	–	–	–	–	–	–	–	–	–	–	–
Abscess	–	–	–	–	–	–	–	–	–	–	–	–
Ulcer	–	–	–	–	1	–	–	–	–	–	–	–
Eruptions, &c.	–	–	–	–	–	–	–	–	–	–	–	1
Dyspepsia and Debility	–	–	1	–	–	–	2	–	–	–	–	a1
Wounds	–	–	–	–	–	–	–	–	–	–	–	1
Hernia	1	1	1	–	–	1	–	–	–	–	–	1
TOTAL	3	2	3	3	1	1	3	1	1	4	1	13

a Sea Sickness.

- - - - - - - - - TABLE, No. 3.

- - - employed in the IRREGULAR FORCE.

Megera.	Miranda.	Mutine.	Narcissus.	Octavia.	Orontes.	Phaeton.	Racoon.	Scout.	Serpent.	Sparrowhawk.	Sphinx.	Supply.	Tamar.	Terrible.	Urgent.	TOTAL.
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	1
2	-	-	-	-	1	-	1	-	-	-	1	-	-	-	-	8
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
2	2	-	1	-	-	-	1	1	-	-	1	-	-	-	-	15
-	-	-	-	5	-	-	2	-	2	-	-	-	-	-	2	14
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
-	-	-	-	-	-	1	-	-	-	-	-	-	6	1	-	8
-	-	-	-	-	-	-	2	-	-	-	-	-	1	-	1	4
-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	3
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
-	-	-	-	-	1	-	1	-	-	-	1	-	-	-	1	4
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
-	-	-	-	2	-	-	1	-	-	-	-	-	-	-	-	3
-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
-	-	-	-	-	2	-	-	-	-	-	-	-	1	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
-	-	-	-	1	1	-	1	-	-	-	-	-	-	1	-	6
1	-	-	-	4	2	-	1	-	-	2	-	-	1	1	-	5
																17
6	3	2	1	12	10	2	10	2	2	2	3	1	9	5	6	112

TABLE, No. 4.

SHOWING the Number of DEATHS in each Ship

CAUSE OF DEATH.	Challenger.	Greyhound.	Harrier.	Himalaya.	Liffey.	Megæra.	Mutine.
Continued and Remittent Fever	–	–	–	–	–	–	–
Inflammation of the Brain	–	–	–	–	–	–	–
Apoplexy	–	1	–	–	–	–	–
Laryngitis	–	–	–	–	–	–	–
Inflammation of the Lungs and Pleura	–	–	1	–	–	–	–
Phthisis	–	–	–	1	–	–	–
Disease of the Heart	–	–	–	–	–	–	–
Epistaxis	1	–	–	–	–	–	–
Dysentery	–	–	–	–	–	–	–
Phlegmon and Abscess	–	–	–	–	–	–	1
Wounds and Injuries	–	–	–	1	–	–	–
Drowned	–	–	2	–	2	1	–
Missing	–	–	1	–	–	–	–
Alcoholic Poisoning	–	–	–	–	1	–	–
TOTAL	1	1	4	2	3	1	1

TABLE, No. 4.

employed in the IRREGULAR FORCE.

Narcissus.	Octavia.	Orontes.	Phaeton.	Racoon.	Rinaldo.	Serpent.	Tamar.	Tartar.	Terrible.	Urgent.	TOTAL.
–	–	–	–	–	–	–	–	–	1	–	1
–	–	–	–	–	–	–	1	–	–	–	1
–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	1	–	1
–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	1	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	1	–	–	–	1
–	–	–	–	–	–	–	–	–	1	–	2
–	1	1	3	1	–	–	–	1	–	–	8
1	–	–	–	–	–	1	–	1	–	1	9
–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	–	–	1
1	1	1	3	1	1	1	2	2	3	1	30

TABLE, No. 5. - - - - - - - - -

SHOWING the Names of the SHIPS; the Average Complements, &c.; the Number of Cases; Daily, in each Ship; and the

C. Commissioned.

Rate, &c.	NAMES OF SHIPS.	Where Commissioned.	When Commissioned.	Number of Guns.	Tonnage.	Horse Power.
Iron-clad - -	Caledonia - - - C.	Devonport -	27 April 1865	30	4,125	S. 1,000
Fourth Rate -	Bristol - - - *C.	Sheerness -	4 Oct. 1865	31	3,027	S. 600
	Euryalus - - P. O.	Portsmouth	24 Jan. 1862	35	2,371	S. 400
	Liffey - - P. O.	Devonport -	16 July 1862	39	2,654	S. 600
	Narcissus - - - C.	Devonport -	4 April 1865	35	2,665	S. 400
	Octavia - - - C.	Portsmouth	14 June 1865	35	3,161	S. 1500
	Phaeton - - - P. O.	Sheerness -	1 Nov. 1861	35	2,396	S. 400
Fifth Rate - -	Terrible - - - C.	Sheerness -	28 April 1865	21	1,850	P. 800
Sixth Rate - -	Basilisk - - - C.	Sheerness -	16 Sept. 1865	6	1,031	P. 400
	Cadmus - - - -	Chatham -	15 Dec. 1864	21	1,466	S. 400
	Challenger - - P. O.	Sheerness -	6 May 1861	22	1,462	S. 400
	Charybdis - - P. O.	Sheerness -	2 Nov. 1860	21	1,506	S. 400
	Highflyer - - -	Portsmouth	15 Dec. 1864	21	1,161	S. 250
	Malacca - - - C.	Portsmouth	13 Nov. 1865	13	1,034	S. 200
	Miranda - - P. O.	Sheerness -	6 Oct. 1860	15	1,039	S. 250
	Niger - - - C.	Woolwich -	3 Feb. 1865	13	1,072	S. 350
	Racoon - - - -	Sheerness -	30 Jan. 1863	22	1,467	S. 400
	Scout - - - C.	Sheerness -	17 May 1865	21	1,462	S. 400
	Tartar - - P. O.	Sheerness -	16 Aug. 1860	20	1,296	S. 250
Sloop - -	Alecto - - P. O.	Woolwich -	23 Jan. 1863	3	800	P. 200
	Greyhound - - C.	Devonport -	23 Sept. 1865	5	880	S. 200
	Harrier - - P. O.	Portsmouth	30 Oct. 1860	17	748	S. 100
	Mutine - - - C.	Woolwich -	7 April 1865	17	882	S. 200
	Rinaldo - - P. O.	Portsmouth	3 May 1861	17	951	S. 200
	Sphinx - - - C.	Devonport -	2 May 1865	6	1,061	P. 500
	Virago - - P. O.	Sheerness -	29 July 1861	6	1,059	P. 300
Gun Vessel - -	Plover - - P. O.	Chatham -	14 Aug. 1861	5	428	S. 80
	Serpent - - - C.	Sheerness -	18 April 1865	4	695	S. 200
	Sparrowhawk - - C.	Portsmouth	9 Mar. 1865	4	676	S 200
	Torch - - - C.	Chatham -	24 Feb. 1865	5	428	S. 80
Steam Vessel -	Oberon - - - C.	Sheerness -	16 Nov. 1865	3	649	P. 260
Yacht - -	Enchantress - - -	Portsmouth	- - -	1	835	P. 250
Gun-boat - -	Gleaner - - - C.	Devonport -	20 April 1865	2	217	S. 60
	Linnet - - - C.	Sheerness -	8 Aug. 1865	2	268	S. 60
Troop Ship - -	Himalaya - - P. O.	Devonport -	1 July 1861	6	3,453	S. 700
	Orontes - - - -	Devonport -	23 April 1863	4	2,812	S. 500
	Tamar - - - -	Sheerness -	10 Oct. 1863	2	2,812	S. 500
	Urgent - - - -	Portsmouth	27 July 1864	4	1,981	S. 400
Store Ship - -	Dromedary - - -	Woolwich -	28 May 1862	2	654	S. 100
	Flora - - - C.	Devonport -	14 Oct. 1865	10	1,634	-
	Industry - - - -	Woolwich -	5 June 1861	2	698	S. 80
	Megæra - - - C.	Devonport -	18 Jan. 1865	6	1,392	S. 350
	Supply - - P. O. C.	Woolwich -	18 Nov. 1865	4	638	S. 80
Crew of Bombay -	- - P. O.	- - -	- - -	-	-	-

- - - - - - TABLE, No. 5.

the Total Number of Days' Sickness on Board; the Average Number of Men Sick Number discharged to Hospital.

P. O. Paid off.

Period.	Average Complements.	Average Complements corrected for Time.	Number of Cases of Disease and Injury.	Number of Days' Sickness on Board.	Average Number of Men Sick Daily for Twelve Months.	Ratio per 1,000 of Average Force of each Ship.	Number Discharged to Hospital.
27 Apr. to 30 June	495	85	90	775	2·1	24·7	30
4 Oct. to 31 Dec.	500	125	299	2,055	5·6	44·8	28
1 July to 23 Sept.	555	130	91	1,521	4·1	31·5	10
1 Jan. to 31 Oct.	560	465	819	7,259	19·8	42·5	37
10 Apr. to 30 June	610	140	242	2,552	6·9	49·3	10
14 June to 31 Dec.	510	275	658	7,103	19·4	70·5	38
1 Jan. to 24 Mar.	420	100	139	914	2·5	25·	13
28 Apr. to 31 Dec.	325	215	407	3,856	10·5	48·8	37
20 Sept. to 31 Dec.	180	45	100	730	2·	44·4	12
1 Jan. to 31 Mar.	295	75	120	1,868	5·1	68·	7
1 Jan. to 2 Feb.	290	25	14	236	·6	24·	6
1 Apr. to 13 June	255	55	72	1,221	3·3	60·	1
1 Jan. to 31 Mar.	265	65	117	1,144	3·1	47·6	5
8 Dec. to 31 Dec.	190	15	14	61	·1	66·6	3
1 Jan. to 3 June	180	75	41	439	1·2	16·	3
10 Feb. to 31 Mar.	185	25	41	211	·5	20·	5
Year - -	290	290	253	3,178	8·7	30·	23
25 May to 30 Sept.	275	100	302	2,874	7·8	78·	9
1 Jan. to 17 May	290	100	158	1,953	5·3	53·	7
1 Jan. to 17 Mar.	90	20	39	366	1·	50·	4
23 Sept. to 31 Dec.	200	55	94	796	2·1	38·1	4
1 Jan. to 31 Mar.	150	40	45	560	1·5	37·5	4
5 Apr. to 30 Sept.	190	95	191	2,804	6·3	66·3	3
1 Jan. to 10 Feb.	165	20	39	379	1·	50·	8
2 May to 30 Sept.	185	75	194	1,941	5·3	70·6	14
1 Jan. to 25 Feb.	135	20	41	434	1·1	55·	3
1 Jan. to 7 Apr.	60	15	22	321	·8	53·3	—
20 Apr. to 31 Dec.	100	70	142	1,379	3·7	52·8	12
9 Mar. to 30 June	90	30	49	630	1·7	56·6	2
1 Mar. to 31 Mar.	65	5	5	19	- -	- -	1
28 Nov. to 31 Dec.	75	5	13	134	·3	60·	—
4 Feb. to 5 June	65	20	18	73	·2	10·	—
27 Apr. to 20 June	40	5	19	107	·2	40·	1
21 Aug. to 31 Dec.	40	15	31	226	·6	40·	—
1 Jan. to 1 Nov.	205	170	319	2,072	5·6	32·9	18
Year - -	430	430	674	6,332	17·3	40·2	92
Year - -	190	190	440	4,456	12·2	64·2	36
Year - -	145	145	364	3,419	9·3	64·1	42
Year - -	65	65	54	394	1·	15·3	5
31 Oct. to 31 Dec.	120	20	39	249	·6	30·	2
Year - -	65	65	63	618	1·6	24·6	5
18 Jan. to 31 Dec.	160	155	166	2,132	5·8	37·4	22
Year - -	55	55	53	292	·8	14·5	2
1 Jan. to 18 Feb.	525	70	39	619	1·6	22·8	4

TABLE, No. 6. - - - - - - - -

SHOWING the Number of CASES of all DISEASES and - - - - - - -

DISEASE OR INJURY.	Alecto.	Basilisk.	Bombay (Crew of).	Bristol.	Cadmus.	Caledonia.	Challenger.	Charybdis.	Dromedary.	Enchantress.	Eurydice.	Flora.	Gleaner.	Greyhound.	Harrier.	Highflyer.	Himalaya.	Industry.	Liffey.
Continued and Remittent Fever	-	7	1	9	1	-	-	1	1	-	2	-	-	3	-	1	2	-	13
Intermittent Fever - - -	-	-	-	-	-	-	-	-	-	-	8	-	-	1	-	1	-	-	22
Small Pox - - - - -	-	-	-	1	-	1	-	-	1	-	-	-	-	-	-	-	1	-	-
Scarlatina - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Measles - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Varicella - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Disease of the Brain - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apoplexy - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Epilepsy - - - - -	1	-	1	-	-	-	1	-	-	-	-	-	-	-	1	2	2	-	4
Paralysis - - - - -	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Insanity - - - - -	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Delirium Tremens - - -	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	1	-
Neuralgia - - - - -	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	1	1
Vertigo - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inflammation of the Lungs and Pleura - - - -	-	1	-	11	4	2	-	-	-	-	-	2	-	-	-	-	7	-	5
Phthisis and Hæmoptysis - -	-	1	-	3	-	2	1	1	-	-	1	-	-	-	-	-	-	1	3
Influenza and Catarrh - -	8	-	2	30	12	2	2	1	7	-	1	-	2	5	3	11	64	7	35
Cynanche - - - - -	-	3	2	13	6	-	-	1	-	-	1	3	-	2	4	2	6	1	15
Asthma - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Disease of the Heart, Functional and Organic - - -	-	-	-	1	1	-	a1	1	-	-	1	-	-	1	2	1	4	-	2
Hæmorrhoids - - - -	-	1	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	2	1
Varix - - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inflammation of the Stomach and Bowels - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
Dysentery - - - - -	-	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	-	-	5
Diarrhœa - - - - -	9	1	4	4	4	3	-	5	1	9	8	1	1	2	3	-	27	1	182
Constipation and Colic - -	-	-	-	-	1	-	-	7	-	-	-	-	-	2	-	1	3	1	4
Inflammation of the Liver - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	4
Jaundice - - - - -	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Splenitis - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inflammation of the Bladder and Kidneys - - - -	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	1
Syphilis, Primary and Secondary	1	7	3	38	21	28	-	3	4	-	21	2	2	8	1	2	30	2	27
Gonorrhœa - - - - -	-	4	-	23	4	2	-	1	2	-	-	1	-	3	-	2	7	1	10
Orchitis - - - - -	-	-	-	1	4	-	-	-	4	1	-	-	-	2	-	1	4	-	10
Stricture of the Urethra - -	-	-	-	1	1	1	-	-	-	1	-	-	-	1	-	1	2	-	-
Incontinence of Urine, &c. -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rheumatism - - - -	4	5	3	20	4	6	1	6	3	1	3	-	1	2	3	7	17	5	57
Gout - - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
Diseases of the Bones and Joints	-	-	1	1	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-
Inflammation of the Eyes - -	-	2	-	6	-	2	-	1	-	-	1	-	-	-	-	3	2	1	3
Amaurosis and Cataract - -	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Otitis and Deafness - - -	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-	2	-	2
Erysipelas - - - - -	-	-	1	1	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Scrofula - - - - -	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bubo (*Symp.*) - - - -	-	1	1	13	-	-	-	1	1	-	-	-	1	1	-	4	1	-	3
Phlegmon and Abscess - -	5	17	2	50	18	15	1	12	9	1	11	10	3	32	13	37	40	18	115
Ulcer - - - - - -	3	7	7	17	2	7	1	3	-	1	2	-	1	2	1	11	12	4	62
Psora - - - - - -	-	-	-	13	11	5	-	-	-	-	-	-	-	-	-	2	5	1	1
Eruptions, &c. - - - -	-	1	1	3	1	-	-	1	2	-	1	-	1	-	2	2	1	-	7
Dyspepsia and Debility - -	1	6	1	5	1	2	-	7	2	-	8	1	1	3	1	4	13	1	12
Headache, &c. - - -	-	-	-	-	-	-	-	2	-	-	2	-	-	1	-	-	-	-	10
Dropsy - - - - -	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
Worms - - - - -	-	-	-	-	-	-	-	-	-	-	b1	-	-	-	-	-	-	-	c1
Wounds and Injuries - -	7	31	8	28	19	7	5	17	13	3	14	17	2	18	11	17	40	13	102
Burns and Scalds - - -	-	1	1	1	3	-	1	1	1	1	-	1	-	2	-	2	4	-	6
Hernia - - - - -	-	1	-	1	-	-	-	-	-	-	1	-	-	-	-	1	-	-	1
Scurvy - - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purpura - - - - -	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alcoholic Poisoning - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Submersion - - - -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL - - -	39	100	30	209	120	90	14	72	51	18	91	39	10	94	45	117	319	63	810

a Epistaxis. *b* Tænia.

Table, No. 6.

Injuries in each Ship in the Irregular Force.

Linnet.	Malacca.	Megæra.	Miranda.	Mutine.	Narcissus.	Niger.	Oberon.	Octavia.	Orontes.	Phaeton.	Plover.	Racoon.	Rinaldo.	Scout.	Serpent.	Sparrowhawk.	Sphinx.	Supply.	Tamar.	Tartar.	Terrible.	Torch.	Urgent.	Virago.	Total.
		4		3	1			15	7	2		5		17	14		1	3	42	1	1	1	3	1	162
				1	3			3	2	8				2	7	1		3	4	3	2		2		73
		1														1			4	1	2		1		10
																	1								1
								2									1								3
				1	1														2						2
																									2
				1	1							1			1	1	1		1		3				1
			4		1			2	3												1				22
					1				1					1							1				13
					1				1	1									1		3				5
				2		1		4	1	1							1				2		6		10
								2													3				23
		2		3			2	5		2	1			1			4		1		2		5		5
		5	1	1	1			1	2			1		1	1		1		1						60
1		6	13	18	27	6	1	49	41	17	4	11	13	16	11	5	14	4	21	8	48		65	9	29
		2		8	5	2		13	23	7	1	13	1	7			10	2	5	1	14		15	2	600
			3																						190
1		1						8		1		1	1	2	1		2		2		6		1	1	4
1				2	3					2				1		1					1				46
								2															3		14
																									5
			1					2								2			23		1				2
4		11	1	8	3	1		17	34	2		10	1	21	4	4	10	5	88	7	13		39	3	37
				3				5	15	1				3	2		2		14	6	3		2		560
		2		2					1			4		3					2		1		3		75
		3						1	2			2							3		3				28
														1							1		1		17
					1			2																	3
	8	11	1	9	21	2		79	59	6		25	1	11	9	11	9	2	24	15	31	2	21	1	7
	1	2	1	2	12	3		29	46			10		3	1		3	1	14		4		4		558
		2		5	3		1	18	20			8		5	1		1	1	9		2		6		195
		2						2	1	1		1			1				3		1		3		109
								1						1											23
2	1	5		12	19	4	2	43	69	7	1	18	2	16	8	7	12	7	32	18	38		6		2
1					1			1	1								2				2		1		478
1				1				2		2			1		1		1						3		11
		3		3	3			9	4			2	1	1	3	1	2		2	1			3		16
								2				1													59
		2												2	3		1			1					5
		1			1			1		2				1		1				1					16
								1				1											1		13
		3		3	5			22	16	2		6		4			1		2	4	2		6		4
10	1	34	13	51	59	5	2	91	105	23	3	53	5	80	31	4	44	4	42	47	86		61	11	103
1	1	1		3	10	3		47	56	9		11	3	22	5		13	10	4	2	1		11		1,283
		4		2		3		6	11	2		1		3			5	1							356
2		4			12	1		12	3	1	1	8	1	2			1		2	1	5		3		76
		15	1		3	2		32	42	1	2	8		10	7	2	8	2	36	3	22		24	1	82
				3			1	4	2						4		4		10		2		2		290
															1								1		47
					1										1										6
6	2	31	6	43	42	7	3	115	100	33	8	49	8	62	23	6	28	9	43	38	95	1	57	12	4
1		2		1	2	1	1	3	4	1	1	1	1	1	3		1		4		4		5		1,303
		2						5	2			2				2			1		1				62
																			1						20
																			1						1
																			1						2
		1																							1
31	14	166	41	191	242	41	13	658	674	139	22	253	39	302	142	49	194	53	440	158	407	5	364	41	1
																									7,130

e Ascaris Lumbricoides.

TOTAL FORCE.

Total Force.

THE Total Force in the service afloat in 1865, was 51,210 men; and the total number of cases of disease and injury placed on the sick-list 69,315, which is in the ratio of 1368·1 per 1,000 of mean force, being slightly below the ratio of cases of the previous year. In estimating the ratio of cases the Total Force is taken at 50,660, a deduction to the extent of 550 men being made for the gun-boats in China from which, in consequence of their not carrying medical officers, no reliable returns of cases have been obtained. The full force, however, is taken in computing the invaliding and death-rates. The total number invalided was 1,687, being in the ratio of 32·9 per 1,000, a reduction, as compared with the previous year, equal to 2·5 per 1,000. Of those invalided 1,506 were for various forms of disease, and 181 for wounds and injuries of different kinds. There were 580 deaths, 416 being the result of disease, and 164 of wounds and injuries, and drowning. The total death-rate was 11·3 per 1,000 of mean force, which is a reduction, as compared with the preceding year, equal to 2·7 per 1,000. The ratio of mortality from disease alone was 8·1 per 1,000.

The number of cases of disease and injury on the Home Station, per man, was 1·; on the Mediterranean Station, 1·3; North America and the West Indies, 1·6; South East Coast of America, 1·6; Pacific, 1·5; West Coast of Africa, 2·1; Cape of Good Hope and East Indies, 1·6; China, 1·6; Australia, 1·4; and in the Irregular Force, 1·6; making an average of 1·3 per man for the Total Force, which is precisely the same number that obtained in the preceding year.

As in 1864 the smallest sick-rate was on the Mediterranean Station, and the highest on the China Station. The ratio

per

per 1,000 of men sick daily on the Home Station was 45·4; on the Mediterranean, 33·4; North America and the West Indies, 54·5; South East Coast of America, 53·1; Pacific, 49·8; West Coast of Africa, 73·2; Cape of Good Hope and East Indies, 61·; China, 80·4; Australia, 46·3; and in the Irregular Force, 70·2; making the average sick-rate of the Total Force, 53·3 per 1,000. In 1864 it was 54·. Total Force.

The stations on which the sick-rate was in excess of the previous year were North America and the West Indies, and the Pacific to a trifling degree; and to a greater extent the West Coast of Africa and China. On the West Coast of Africa yellow fever was epidemic, and in China small-pox prevailed in the squadron at Japan.

As compared with 1864, there was a reduction in the ratio of invaliding on the Home, Mediterranean, Pacific, Cape of Good Hope and East Indies, and China stations, and in the Irregular Force. Excepting on the West Coast of Africa, the increase on the other stations was not great. The ratio of invaliding on the Home Station was 25·8 per 1,000 of mean force; on the Mediterranean Station, 34·3; North America and the West Indies, 32·2; South East Coast of America, 31·4; Pacific, 31·5; West Coast of Africa, 82·9; Cape of Good Hope and East Indies, 33·8; China, 52·; Australia, 22·3; and in the Irregular Force, 26·2. The total number invalided was 1,687, which is in the ratio of 32·9 per 1,000 of mean force, being a reduction, as compared with the preceding year, equal to 2·5 per 1,000.

The station on which there was the greatest reduction in the invaliding rate was the Cape of Good Hope and East Indies; that on which there was the greatest increase, the West Coast of Africa. On the former station the reduction was equal to 19·6 per 1,000; and on the latter the increase was to the extent of 29·5 per 1,000. On both stations the same class of diseases, viz. diseases of the organs of respiration, were those which exerted the greatest influence in reducing or increasing the invaliding rate. In 1864, the number invalided for diseases of the respiratory organs on the West Coast of Africa was six; in 1865 it was nineteen. On the Cape of Good Hope and East Indies Station, in 1864, twenty-three persons were invalided for these diseases; in 1865, the number was only six. The rate of invaliding on different stations in different years is liable to be very much influenced by the

Total Force.

greater or less opportunities that may present themselves of providing invalids with a passage to England.

The only stations on which there was an increase in the ratio of mortality were the Mediterranean and the West Coast of Africa: on the former the increase was merely fractional, but on the latter it was to the extent of 28·4 per 1,000, and was entirely attributable to the presence of yellow fever in an epidemic form in the Archer, Isis, and Rattlesnake. The death-rate on the Home Station from disease was 5·8 per 1,000, and from violence 1·3; on the Mediterranean Station, from disease 6·2, from violence 2·; North America and the West Indies, from disease 7·7, from violence 4·8; South East Coast of America, from disease 7·6, from violence 3·8; Pacific, from disease 3·8, from violence 3·4; West Coast of Africa, from disease 38·2, from violence 10·; Cape of Good Hope and East Indies, from disease 9·4, from violence 5·5; China, from disease 17·7, from violence 5·5; Australia, from disease 4·4, from violence 6·2; and in the Irregular Force, from disease 2·5, from violence 4·4. The total ratio of mortality from disease alone was 8·1 per 1,000, and from violence 3·2. There were 580 deaths altogether, being in the ratio of 11·3 per 1,000, which is a decrease to the extent of 2·7 per 1,000 as compared with the preceding year, but is precisely the same death-rate as occurred in 1863.

As compared with the preceding year, there was a reduction in the death-rate on the Home Station equal to ·7 per 1,000; North America and the West Indies to 3·5; on the South East Coast of America to 71·8 per 1,000. It will be in recollection, that in 1864 the death-rate on this station was exceptionally increased by the mortality that occurred in connection with the loss of the Bombay by fire. On the Pacific Station the reduction in the death-rate was equal to 6· per 1,000; on the Cape of Good Hope and East Indies, to 4·4; China to 1·1; Australia to 15·1: and in the Irregular Force to 1·2.

The following Table shows the ratio per 1,000 of mean force of all cases of disease and injury placed on the sick-list, and of mortality from the various classes of disease on the different stations:—

CLASS OF DISEASE.	Home.		Mediterranean.		North America and West Indies.		Brazils.		Pacific.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Continued and Remittent Fever	11·3	·6	75·1	1·6	175·4	·5	61·9	–	79·8	·3
Yellow Fever - - - -	–	–	–	–	2·1	·5	–	–	–	–
Intermittent Fever - - -	6·1	–	17·1	–	25·2	–	21·9	–	11·4	–
Eruptive Fevers - - - -	5·1	–	1·5	–	·6	–	7·5	–	2·9	–
Diseases of Brain, Nerves, &c. -	11·8	·2	12·6	·2	16·6	1·2	19·9	1·9	28·6	·6
Diseases of Respiratory Organs -	190·7	3·	257·7	1·7	174·5	3·	202·7	1·8	183·	·7
Diseases of Heart and Blood Vessels - - - - - -	11·4	·4	12·8	·4	17·6	·2	15·2	·9	15·8	1·
Diseases of Stomach and Bowels	46·7	·3	127·4	1·1	160·3	·3	281·7	1·8	129·9	–
Diseases of Liver, Spleen, &c. -	3·5	–	8·2	·4	4·9	–	2·8	–	6·4	·3
Diseases of Kidneys, Bladder, and Genital Organs - - -	152·5	–	75·8	–	93·9	·1	66·3	–	107·7	·3
Diseases of Joints, Muscles, Bones, &c. - - - - - -	72·1	–	93·9	·1	85·9	–	88·4	–	118·9	–
Diseases of Senses, Eyes, Ears, &c.	17·4	–	14·1	–	15·9	–	13·2	–	15·1	–
Diseases of Skin, Glandular System, and Cellular Tissue -	269·6	·1	372·7	–	521·8	·3	473·1	–	443·4	–
Diseases not specified - -	40·7	–	59·5	·2	70·8	·5	66·5	·9	81·6	–
Wounds, Accidents, &c. - -	182·2	1·2	257·3	2·	322·2	4·6	289·4	3·7	288·5	3·3

CLASS OF DISEASE.	West Coast of Africa.		Cape of Good Hope and East Indies.		China.		Australia.		Irregular Force.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Continued and Remittent Fever	483·5	4·1	108·8	1·1	169·3	1·5	31·2	–	38·	·2
Yellow Fever - - - -	38·2	20·	–	–	–	–	–	–	–	–
Intermittent Fever - - -	81·1	–	43·3	–	30·8	–	3·5	–	17·1	–
Eruptive Fevers - - -	3·5	1·1	4·4	·5	22·3	2·2	–	–	3·6	–
Diseases of Brain, Nerves, &c. -	30·1	3·8	19·6	2·1	16·8	1·6	23·8	–	18·5	·4
Diseases of Respiratory Organs -	160·9	2·2	177·5	–	174·9	4·1	180·2	2·5	207·1	·6
Diseases of Heart and Blood Vessels - - - - - -	23·4	·5	15·4	1·	13·	·5	7·9	–	15·	·4
Diseases of Stomach and Bowels	149·2	4·6	181·	3·8	233·6	5·8	130·1	·8	158·	·2
Diseases of Liver, Spleen, &c. -	9·2	–	14·8	–	10·6	·5	3·4	–	9·9	–
Diseases of Kidneys, Bladder, and Genital Organs - - -	111·5	–	113·	–	242·2	–	47·	–	209·4	–
Diseases of Joints, Muscles, Bones, &c. - - - - - -	125·7	·5	96·	·5	103·7	–	120·4	·8	118·4	–
Diseases of Senses, Eyes, Ears, &c.	16·3	–	6·	–	16·1	–	20·4	–	18·6	–
Diseases of Skin, Glandular System, and Cellular Tissue -	504·9	–	392·5	–	361·2	·1	482·8	–	449·6	·4
Diseases not specified - -	157·5	·5	74·3	–	70·7	·1	75·7	–	81·9	·2
Wounds, Accidents, &c. - -	291·	9·8	357·1	5·4	224·8	5·2	322·2	6·1	325·3	4·3

Fevers.—Three thousand nine hundred and seventy-eight cases of continued or remittent fever were entered on the sick-list during

Total Force.

during the year, which is in the ratio of 78·5 per 1,000 of mean force, being an increase, as compared with the preceding year, equal to 17·3 per 1,000. Forty-nine persons were invalided for the sequelæ of these fevers. and forty-seven died, the former being in the ratio of ·9, and the latter also of ·9 per 1,000 of mean force, both ratios being in excess of those of 1864. The stations on which these diseases were most prevalent were, as heretofore, the West Coast of Africa, and North America and the West Indies. A large proportion, however, of the cases on the latter station were of an ephemeral character, so that the mortality was comparatively small. On the West Coast of Africa, on the other hand, the mortality was higher than on any other station, and the stations ranking next in importance in this respect were the Mediterranean and China. On the Mediterranean the mortality was chiefly caused by enteric fever. As compared with the preceding year, there was an increase in the ratio of cases of continued and remittent fevers on the North American and West Indian, South East Coast of America, Pacific, West Coast of Africa, and China stations. The death-rate, however, was only increased on the Home and China stations, and in both the increase was only fractional. On the South East Coast of America, although there was an increase in the ratio of cases, there was no mortality whatever from them. In 1864 the death-rate from this cause on the same station was 2·7. The only other station on which there was no mortality from fever was the Australian. On the Cape of Good Hope and East Indies station, the increase in the ratio of cases of primary fever was equal to 32·5 per 1,000; the ratio of mortality was only half that of the preceding year. A large majority of the cases, in fact, were of a very mild character, being for the most part dependent on insolation or dietetic errors.

Yellow Fever.—Seventy-six cases of this fatal form of fever occurred in the fleet during the year, eleven on the North American and West Indian Station, and the remainder on the West Coast of Africa. This number, however, only indicates the cases that were returned as specific yellow fever, for there can be little doubt that a large number of cases of fever occurring simultaneously with them, but which were classed as remittent or ephemeral, were merely modified forms of the more deadly disease. This is indeed admitted by the medical officers of the ships in which the fever appeared, and is also indicated by the mortality resulting from the cases returned

as

as yellow fever; viz., nearly one death in every two cases, a proportion which is uncommon, the usual death-rate being one in four or five. Total Force

Eruptive Fevers.—There was a great reduction in the ratio of cases coming under this head, as compared with the preceding year, and the reduction extends to the death-rate. This was altogether attributable to the comparative absence of small-pox from the Home ports, and to a reduction in the number of cases of the same disease on the China Station. In 1864, the number of cases of small-pox on the Home Station was 199, and in China 150; while in the present year there were only eighteen cases on the Home Station, and 105 in China. The total ratio of cases of small-pox is, in fact, little more than one-third of that of the previous year, and the death-rate is in proportion. There was no mortality from any of the other forms of eruptive fever that came under treatment during the year.

Diseases of the Brain and Nervous System.—There was a slight increase in the ratio of cases and of mortality under this head, as compared with 1864, but the invaliding rate was lower. There were twelve deaths from disease of the brain, of various forms; eighteen from apoplexy; three from epilepsy; five from paralysis; two from insanity; and eight from delirium tremens. The highest ratio of cases under this head was on the West Coast of Africa; the lowest, on the Home Station.

Diseases of the Organs of Respiration.—The different ratios coming under this head are almost precisely the same as in 1864. There is a very trifling increase in the ratio of cases, but the death-rate is exactly the same. In 1864 the ratio of invaliding for these diseases was 6·per 1,000. In the present year it was 6·1. In 1864 the ratio per 1,000 of men daily sick from these diseases was 5·3; in 1865 it was 5·4. The station which showed the largest ratio of cases was the Mediterranean; next to it the highest ratio was in the Irregular Force. The stations on which there was an increase in the ratio of cases of all classes of disease coming under this head, as compared with the preceding year, were the Home, Mediterranean, North America and the West Indies, West Coast of Africa, and the Cape of Good Hope and East Indies.

Diseases of the Heart and Bloodvessels.—There was a reduction in all the ratios coming under this head as compared

Total Force.

with the preceding year. Of 433 cases of functional or organic disease of the heart, 135 were invalided, and twenty-four died. Five men were invalided for hæmorrhoidal disease; twenty-five for varicose veins; and of eleven cases of aneurism, five were invalided, and five died. By much the largest ratio of cases coming under this head occurred on the West Coast of Africa.

Diseases of the Alimentary Canal.—There was a slight increase in the ratio of cases coming under this head, as compared with the preceding year, but there was a reduction in the invaliding rate. The death-rate was precisely the same as in 1864. The great reduction in the death-rate from dysentery was unhappily counterbalanced by an increase in the mortality from cholera. In 1864, 632 cases of dysentery were under treatment, of which forty-nine proved fatal; while in 1865 only 274 cases of dysentery occurred, of which twenty-two proved fatal. On the other hand, there were only eighteen cases of cholera, and nine deaths, in 1864, while in the present year there were fifty-two cases of cholera and twenty-nine deaths. The station showing the highest ratio of cases was the South East Coast of America, where diarrhœa prevailed epidemically in one or two vessels. In China, the ratio of cases of dysentery was the lowest that had occurred for many years. The average ratio of cases of this disease on that station, taken for a period of seven years, was 65·7 per 1,000. In 1865 it was only 21·7. This is unquestionably entirely attributable to the squadron being chiefly employed in Japan. The death-rate from all classes of disease coming under this head was reduced on the North American and West Indian station, the West Coast of Africa, China, Australia, and in the Irregular Force.

Diseases of the Liver and Spleen.—There was an increase in the ratio of cases, and of invaliding, under this head, as compared with 1864, but the death-rate was lower. One hundred and seventy-five cases of disease of the liver were placed on the sick-list, of which thirty-eight were invalided and eight proved fatal. These diseases, as might be anticipated, were more prevalent on the Cape of Good Hope and East Indies Station, and in China, than on any of the other stations.

Diseases of the Genito-Urinary Organs.—It will be seen by the following Table, that there was an increase in the ratio

ratio of cases of syphilitic disease on the Home Station, North America and the West Indies, West Coast of Africa, Cape of Good Hope and East Indies, and in the Irregular Force. The increase, however, is so trifling, that it has only added to the ratio of the total force to the extent of 1·6 per 1,000 of mean force. The increase on the Home Station was only fractional. Although there was a slight diminution of the disease in the China squadron, the ratio of cases on that station was by far the highest, and this must continue to be the case so long as the Japanese authorities decline to institute some species of surveillance over prostitution at their seaports. On the Home Station the Contagious Diseases Act appears to have been as yet inoperative. Four thousand three hundred and thirteen cases of syphilis were under treatment, of which 130 were invalided. The daily loss of service occasioned by it was equal to 468 men, and the total days' sickness on board ship and in hospital gave an average duration to each case of 39·6 days. In 1864 the daily loss of service was equal to 460 men, and the average duration of each case 38·3 days. Total Force

Stations.	Syphilis.		Gonorrhœa.	
	1864.	1865.	1864.	1865.
Home	96·6	97·1	25·7	30·3
Mediterranean	35·3	35·2	10·2	17·1
North America and West Indies	52·4	53·4	15·8	15·2
Brazils	45·2	36·1	22·6	16·1
Pacific	48·7	61·2	19·4	18·2
West Coast of Africa	22·9	42·3	22·3	40·
Cape of Good Hope and East Indies	63·7	65·5	23·2	23·8
China	177·7	165·3	37·2	35·3
Australia	17·2	16·	6·8	9·8
Irregular Force	127·6	130·9	29·1	45·7

Rheumatism.—There was a slight reduction in the ratio of cases coming under this head, as compared with the preceding year, and the invaliding rate was also lower. It will be perceived by the following Table that, as in 1864, the highest ratio was on the West Coast of Africa, and the lowest on the Home Station. The total number of cases under treatment during the year was 4,250, of which 192 were invalided, and four died. The average duration of each case

Total Force. was 18 days, and the average number of men sick daily from the disease was 212·6. The average duration of each case in 1864 was 17·7 days, and the number of men sick daily, 217.

Stations.	Rheumatism.	
	1864.	1865.
Home	66·8	66·6
Mediterranean	82·3	88·8
North America and West Indies	80·6	80·1
Brazils	126·2	78·
Pacific	109·5	109·5
West Coast of Africa	129·8	115·2
Cape of Good Hope and East Indies	96·9	83·8
China	96·7	100·4
Australia	105·1	113·3
Irregular Force	109·5	112·2

Diseases of the Special Senses.—There was a reduction in the ratio of cases and of invaliding under this head, as compared with the preceding year. Forty-two persons were invalided for various affections of the eyes, and eighteen for deafness.

Diseases of the Skin and Cellular Tissue.—There was a reduction in the ratio of cases and of invaliding under this head, as compared with the preceding year, but the death-rate is higher. Boils and abscesses and ulcers were by far the most prevalent affections, and from these diseases alone the daily loss of service was equal to 546·2 men. There were three deaths from erysipelas, and seven from abscess, chiefly lumbar abscess. One man was invalided for erysipelas; twenty-two persons for various forms of struma; six for sympathetic bubo; seventeen for boils and abscesses; sixty-four for ulcer; and nine for diseases of the skin.

Average Number Sick Daily.—The average number daily under treatment for different forms of fever, including the exanthemata, was 181·1; for diseases of the brain and nervous system, 47·6; for diseases of the organs of respiration, 288·8; diseases of the heart and bloodvessels, 46·2; of the alimentary canal, 119·5; of the liver and spleen, 20·3; of the genito-urinary organs, chiefly venereal, 617·6; for rheumatism, 212·6; gout, 3·2; diseases of the bones and joints

joints, 16·; for diseases of the special senses, 37·2; for diseases of the skin and cellular tissue, 668·1; for dyspepsia and debility, 66·2; for diseases not classed, 18·; and from wounds and injuries of various kinds, 38·4. The total number of men daily under treatment for various forms of disease and injury was 2730·4, which is the ratio of 53·3 per 1,000 of mean force, being ·7 below the daily sick-rate of the preceding year. Total Force.

The following Table shows the ratio per 1,000 of mean force of cases placed on the sick-list, of invaliding, and of mortality on the different stations during the year.

STATIONS.	Ratio per 1,000 of Force of Cases placed on Sick-list.	Ratio per 1,000 of Force Invalided.	Ratio per 1,000 of Force Dead.
Home	1,025·1	25·8	7·1
Mediterranean	1,388·2	34·3	8·2
North America and West Indies	1,690·9	32·2	12·5
Brazils	1,612·3	31·4	11·4
Pacific	1,515·2	31·5	7·2
West Coast of Africa	2,188·8	82·9	48·2
Cape of Good Hope and East Indies	1,606·1	33·8	15·
China	1,692·3	52·	23·2
Australia	1,450·8	22·3	10·7
Irregular Force	1,673·7	26·2	7·

Summary.—The total force in 1865 was 51,210, and the total number of men sick daily, 2,730·4, which is in the ratio of 53·3 per 1,000. In 1864, the ratio was 54·.

There were 69,315 cases of disease and injury under treatment, which is in the ratio of 1,368·1 per 1,000 of mean force, being a reduction, as compared with the previous year, equal to 5·9 per 1,000. Each case was, on an average, 14·3 days under treatment, and the total days' sickness, divided amongst the Total Force, gave an average of 17·5 days' sickness to each man.

The total number invalided was 1,687, being in the ratio of 32·9 per 1,000, which is a reduction, as compared with the preceding year, equal to 2·5 per 1,000. The total number of deaths was 580, which is in the ratio of 11·3 per 1,000 of mean force, being a reduction to the extent of 2·7 per 1,000 compared with the previous year. Deducting deaths by violence, the death-rate was only 8·1 per 1000.

TABLE, No. 1.

SHOWING the Number of CASES of all DISEASES and INJURIES, and the Number INVALIDED and DEAD, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Continued and Remittent Fever	3,978	78·5	49	·9	47	·9
Yellow Fever	76	1·5	-	-	37	·7
Intermittent Fever	876	17·2	12	·1	—	—
Small Pox	164	3·2	-	-	15	·2
Measles	49	·9	—	—	—	—
Scarlatina	45	·8	1	—	—	—
Varicella	13	·2	—	—	—	—
Vaccinia	6	·1	—	—	—	—
Disease of the Brain	23	·4	7	·1	12	·2
Apoplexy	46	·9	3	-	18	·3
Epilepsy	199	3·9	76	1·4	3	—
Paralysis	66	1·3	33	·6	5	—
Insanity	39	·7	19	·3	2	—
Delirium Tremens	164	3·2	1	-	8	·1
Neuralgia	172	3·3	4	—	—	—
Vertigo	105	2·	11	·2	—	—
Inflammation of the Lungs and Pleura	836	16·5	46	·8	46	·8
Phthisis and Hæmoptysis	400	7·8	262	5·1	83	1·6
Influenza and Catarrh	6,615	130·5	2	—	—	—
Cynanche	2,079	41·	4	-	1	—
Asthma	45	·8	9	·1	—	—
Disease of the Heart, Functional and Organic	433	8·5	135	2·6	24	·4
Hæmorrhoids	183	3·6	5	—	—	—
Varix	63	1·2	25	·4	—	—
Aneurism	11	·2	5	-	5	—
Disease of the Stomach and Bowels	65	1·2	9	·1	17	·3
Dysentery	274	5·4	50	·9	22	·4
Diarrhœa	4,692	92·5	25	·4	4	—
Cholera	52	1·	-	-	29	·5
Constipation and Colic	795	15·6	—	—	—	—
Colica Pictonum	2	—	—	—	—	—
Disease of the Liver	175	3·4	38	·7	8	·1
Jaundice	139	2·7	-	-	1	—
Splenitis	8	·1	1	—	—	—

TABLE, No. 1.—Showing the Number of Cases of all Diseases, &c.—*continued.*

DISEASE OR INJURY.	Number of Cases.	Ratio per 1,000 of Force.	Number Invalided.	Ratio per 1,000 of Force.	Number Dead.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	100	1·9	13	·2	3	—
Syphilis	4,313	85·1	130	2·5	—	—
Gonorrhœa	1,387	27·3	1	—	—	—
Orchitis	1,071	21·1	10	·1	—	—
Stricture	188	3·7	24	·4	1	—
Incontinence of Urine, &c.	19	·3	6	·1	—	—
Rheumatism	4,250	83·8	192	3·7	4	—
Gout	87	1·7	—	—	—	—
Disease of the Bones and Joints	226	4·4	20	·3	1	—
Inflammation of the Eyes	588	11·6	15	·2	—	—
Amaurosis and Cataract	33	·6	27	·5	—	—
Otitis and Deafness	205	4·	18	·3	—	—
Erysipelas	111	2·1	1	- -	3	—
Scrofula	71	1·4	22	·4	—	—
Bubo (*Symp.*)	806	15·9	6	·1	—	—
Phlegmon and Abscess	12,033	237·5	17	·3	7	·1
Ulcer	4,093	80·7	64	1·2	—	—
Psora	589	11·6	—	—	—	—
Eruptions, &c.	755	14·9	9	·1	—	—
Dyspepsia and Debility	2,614	51·5	84	1·6	4	—
Scurvy	15	·2	—	—	—	—
Dropsy	88	1·7	8	·1	4	—
Worms	84	1·6	5	—	—	—
Headache	321	6·3	2	—	—	—
Purpura	5	—	—	—	—	—
Pyæmia	3	- -	- -	- -	2	—
Wounds and Injuries	11,680	230·5	93	1·8	53	1·
Burns and Scalds	522	10·3	- -	- -	1	—
Hernia	150	2·9	88	1·7	—	—
Drowned	- -	- -	- -	- -	99	1·9
Poisoning	13	·2	- -	- -	3	—
Asphyxia	2	- -	- -	- -	2	—
Suicide	- -	- -	- -	- -	1	—
Not stated	- -	- -	- -	- -	4	—
Submersion	6	·1	—	—	—	—
Missing	- -	- -	- -	- -	1	—
TOTAL	69,316	1368·2	1,687	32·9	580	11·3

TABLE, No. 2.—SHOWING the Average Force Corrected for Time; the Number of CASES; the Number of Days' SICKNESS; with the Ratios on the different Stations.

STATION.	Average Force.	Number of Cases of Disease and Injury.	Number of Cases per Man.	Number of Days' Sickness on Board.	Average Number of Men Sick Daily on Board.	Ratio per 1,000 of Force.	Number discharged to Hospital.	Ratio per 1,000 of Force.	Number of Days' Sickness in Hospital.	Average Number of Men Daily in Hospital.	Ratio per 1,000 of Force.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Home - - -	20,980	21,507	1·	192,412	527·1	25·1	3,243	154·5	155,987	427·3	20·3	348,399	954·5	45·4
Mediterranean -	7,240	10,051	1·3	107,991	295·8	40·8	400	55·2	17,016	46·6	6·4	125,007	242·4	33·4
North America and West Indies -	5,180	8,759	1·6	84,970	232·7	44·9	587	113·3	18,116	49·6	9·5	103,086	282·4	54·5
South East Coast of America - -	1,050	1,693	1·6	17,572	48·1	45·8	68	64·7	2,814	7·7	7·3	20,386	55·8	53·1
Pacific - - -	2,630	3,985	1·5	42,633	116·8	44·4	92	34·9	5,269	14·4	5·4	47,902	131·2	49·8
West Coast of Africa	1,700	3,721	2·1	39,514	108·2	63·6	286	168·2	5,934	16·2	9·5	45,448	124·5	73·2
Cape of Good Hope and East Indies -	1,800	2,891	1·6	33,759	92·4	51·3	125	69·4	6,342	17·3	9·6	40,101	109·8	61·
China - - -	4,700 5,250	7,954	1·6	109,694	300·5	63·9	479	101·9	28,423	77·8	14·8	138,117	378·3	80·4
Australia - -	1,120	1,625	1·4	15,781	43·2	38·5	35	31·2	3,182	8·7	7·7	18,963	51·9	46·3
Irregular - -	4,260	7,130	1·6	70,237	192·4	45·1	568	133·3	38,971	106·7	25·	109,208	299·2	70·2
TOTAL - - -	50,660 51,210	69,316	1·3	714,563	1957·5	38·6	5,883	116·1	282,054	772·7	15·	996,617	2730·4	53·3

TABLE, No. 3.

SHOWING the Number of MEN INVALIDED and DEAD from DISEASE and INJURY on the different Stations, with the Ratio per 1,000 of Force.

STATION.	Number of Men Invalided for Disease.	Ratio per 1,000 of Force.	Number of Men Invalided for Injury.	Ratio per 1,000 of Force.	Total Number Invalided.	Ratio per 1,000 of Force.	Number of Deaths from Disease.	Ratio per 1,000 of Force.	Number of Deaths from Injury.	Ratio per 1,000 of Force.	Total Number of Deaths.	Ratio per 1,000 of Force.
Home	467	22·2	76	3·6	543	25·8	122	5·8	29	1·3	151	7·1
Mediterranean	236	32·5	13	1·7	249	34·3	45	6·2	15	2·	60	8·2
North America and West Indies	146	28·1	21	4·	167	32·2	40	7·7	25	4·8	65	12·5
South East Coast of America	31	29·5	2	1·9	33	31·4	8	7·6	4	3·8	12	11·4
Pacific	72	27·3	11	4·1	83	31·5	10	3·8	9	3·4	19	7·2
West Coast of Africa	134	78·8	7	4·1	141	82·9	65	38·2	17	10·	82	48·2
Cape of Good Hope and East Indies	48	26·6	13	7·2	61	33·8	17	9·4	10	5·5	27	15·
China	262	49·9	11	2·	273	52·	93	17·7	29	5·5	122	23·2
Australia	20	17·8	5	4·4	25	22·3	5	4·4	7	6·2	12	10·7
Irregular	90	21·1	22	5·1	112	26·2	11	2·5	19	4·4	30	7·
TOTAL	1,506	29·4	181	3·5	1,687	32·9	416	8·1	164	3·2	580	11·3

TABLE, No. 4.

SHOWING the Number of DAYS' SICKNESS from each DISEASE and from INJURIES, the Average Number of Men Sick Daily, with the Ratio per 1,000 of Force.

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Sick Daily.	Ratio per 1,000 of Force.
Continued and Remittent Fever	36,923	10,505	47,428	129·9	2·5
Yellow Fever	580	-	580	1·5	—
Intermittent Fever	8,315	1,492	9,807	26·8	·5
Small-pox	1,541	5,364	6,905	18·9	·3
Measles	210	615	825	2·2	—
Scarlatina	185	1,165	1,350	3·6	—
Vaccinia	21	-	21	—	—
Varicella	45	106	151	·4	—
Disease of the Brain	323	802	1,125	3·	—
Apoplexy	638	226	864	2·3	—
Epilepsy	1,589	1,022	2,611	7·1	·1
Paralysis	873	3,787	4,660	12·7	·2
Insanity	453	1,313	1,766	4·8	·1
Delirium Tremens	1,051	928	1,979	5·4	·1
Neuralgia	995	333	1,328	3·6	—
Vertigo	1,002	366	1,368	3.7	—
Inflammation of the Lungs and Pleura	11,260	13,749	25,009	68·5	1·3
Phthisis and Hæmoptysis	7,031	14,843	21,874	59·9	1·1
Influenza and Catarrh	39,897	1,943	41,840	114·6	2·2
Cynanche	13,805	2,129	15,934	43·6	·8
Asthma	514	308	822	2·2	—
Disease of the Heart, Functional and Organic	6,190	6,673	12,863	35·2	·6
Hæmorrhoids	1,961	718	2,679	7·3	·1
Varix	661	466	1,127	3·	—
Aneurism	130	151	281	·7	—
Disease of the Stomach and Bowels	748	1,327	2,075	5·6	·1
Dysentery	4,430	3,774	8,204	22·4	·4
Diarrhœa	26,360	2,845	29,205	80·	1·5
Cholera	326	104	430	1·1	—
Constipation and Colic	3,448	349	3,797	10·4	—
Colica Pictonum	24	-	24	—	—
Disease of the Liver	2,769	2,413	5,182	14·1	·2
Jaundice	1,760	266	2,026	5·5	·1
Splenitis	176	110	286	·7	—

TABLE, No. 4.—Showing the Number of Days' Sickness from each Disease, &c.—*continued.*

DISEASE OR INJURY.	Number of Days' Sickness on Board.	Number of Days' Sickness in Hospital.	Total Number of Days' Sickness.	Average Number of Men Daily Sick.	Ratio per 1,000 of Force.
Disease of the Bladder and Kidneys	1,091	1,056	2,147	5·8	·1
Syphilis	83,158	87,670	170,828	468·	9·1
Gonorrhœa	20,778	4,697	25,475	69·7	1·3
Orchitis	15,962	3,760	19,722	54·	1·
Stricture	2,568	3,865	6,433	17·6	·3
Incontinence of Urine, &c.	346	589	935	2·5	—
Rheumatism	49,910	27,714	77,624	212·6	4·1
Gout	813	366	1,179	3·2	—
Disease of the Bones and Joints	3,319	2,541	5,860	16·	·3
Inflammation of the Eyes	6,743	3,433	10,176	27·8	·5
Amaurosis and Cataract	393	403	796	2·1	—
Otitis and Deafness	2,027	641	2,668	7·3	·1
Erysipelas	1,275	1,678	2,953	8·	·1
Scrofula	1,665	1,927	3,592	9·8	·1
Bubo (*Symp.*)	16,739	4,833	21,572	59·1	1·1
Phlegmon and Abscess	101,066	9,750	110,816	303·6	5·9
Ulcer	71,192	17,384	88,576	242·6	4·7
Psora	4,315	73	4,388	12·	·2
Eruptions, &c.	8,837	3,232	12,069	33·	·6
Dyspepsia and Debility	16,018	8,161	24,179	66·2	1·2
Scurvy	185	30	215	·5	—
Dropsy	1,357	1,217	2,574	7·	·1
Worms	502	264	766	2·	—
Headache	2,089	991	3,080	8·4	·1
Purpura	51	- -	51	·1	—
Pyæmia	25	- -	25	- -	—
Wounds and Injuries	117,889	14,721	132,610	363·3	7·
Burns and Scalds	6,324	546	6,870	18·8	·3
Hernia	1,600	320	1,920	5·2	·1
Poisoning	57	- -	57	·1	—
Submersion	34	- -	34	—	—
Asphyxia	1	- -	1	—	—
TOTAL	714,563	282,054	996,617	2730·4	53·3

TABLE, No. 5.

SHOWING the NUMBER INVALIDED on the several STATIONS.

CAUSE OF INVALIDING.	Home.	Mediterranean.	North America and West Indies.	South East Coast of America.	Pacific.	West Coast of Africa.	Cape of Good Hope and East Indies.	China.	Australia.	Irregular.	TOTAL.
Continued and Remittent Fever	–	7	2	–	1	29	3	6	–	1	49
Intermittent Fever	4	1	1	–	1	2	–	3	–	–	12
Scarlatina	–	–	–	–	–	1	–	–	–	–	1
Inflammation of the Brain	4	1	–	–	–	–	–	2	–	–	7
Insanity	6	5	3	–	–	1	–	2	1	1	19
Delirium Tremens	–	–	–	–	–	–	–	1	–	–	1
Apoplexy	1	–	–	–	–	–	1	1	–	–	3
Epilepsy	27	11	9	2	7	2	2	8	–	8	76
Paralysis	16	4	3	1	1	–	1	3	1	3	33
Neuralgia	1	–	1	1	–	–	–	–	–	1	4
Vertigo	9	2	–	–	–	–	–	–	–	–	11
Inflammation of the Lungs and Pleura	13	8	5	1	3	7	2	5	1	1	46
Phthisis and Hæmopytsis	89	52	26	5	12	10	4	46	3	15	262
Catarrh	–	–	1	–	–	1	–	–	–	–	2
Cynanche	–	4	–	–	–	–	–	–	–	–	4
Asthma	3	1	2	1	1	1	–	–	–	–	9
Disease of the Heart, Functional and Organic	57	23	10	3	5	5	8	6	4	14	135
Aneurism	4	1	–	–	–	–	–	–	–	–	5
Hæmorrhoids	1	–	3	–	–	1	–	–	–	–	5
Varix	11	3	3	–	4	2	–	–	–	2	25
Inflammation of the Stomach and Bowels	1	2	3	–	–	2	–	–	–	–	8
Dysentery	1	1	2	4	1	4	1	27	1	8	50
Diarrhœa	3	6	3	1	–	1	–	10	1	–	25
Stricture of Rectum	–	–	–	1	–	–	–	–	–	–	1
Disease of the Liver	2	2	6	1	1	6	5	10	1	4	38
Splenitis	–	–	–	–	–	–	–	–	–	1	1
Inflammation of the Kidneys and Bladder	3	2	2	–	1	2	–	1	–	2	13
Syphilis	28	15	9	4	3	4	2	62	–	3	130
Gonorrhœa	–	–	–	1	–	–	–	–	–	–	1
Orchitis	2	1	1	–	1	2	2	1	–	–	10
Stricture	4	2	4	–	1	7	1	1	2	2	24
Incontinence of Urine, &c.	5	1	–	–	–	–	–	–	–	–	6
Rheumatism	61	50	12	1	12	17	6	27	2	4	192
Disease of the Bones and Joints	12	3	–	–	2	–	2	1	–	–	20
Inflammation of the Eyes	5	5	–	–	1	–	–	1	–	3	15
Amaurosis and Cataract	15	2	4	–	–	2	1	–	–	3	27
Otitis and Deafness	11	3	1	–	–	–	1	2	–	–	18
Erysipelas	1	–	–	–	–	–	–	–	–	–	1
Scrofula	13	1	2	–	–	–	1	3	–	2	22
Bubo (*Symp.*)	1	–	2	–	–	2	–	–	–	1	6
Abscess	6	1	–	2	3	–	1	3	–	1	17
Ulcer	21	5	6	–	3	4	2	18	2	3	64
Eruptions, &c.	1	4	–	1	–	1	–	1	–	1	9
Dyspepsia and Debility	20	7	18	1	2	17	2	10	1	6	84
Headache, &c.	–	–	1	–	–	1	–	–	–	–	2
Dropsy	5	–	1	–	1	–	–	1	–	–	8
Worms	–	–	–	–	5	–	–	–	–	–	5
Wounds	41	9	10	1	4	6	6	7	4	5	93
Hernia	35	4	11	1	7	1	7	4	1	17	88
TOTAL	543	249	167	33	83	141	61	273	25	112	1,687

TABLE, No. 6.

SHOWING the Number of DEATHS on the several STATIONS.

CAUSE of DEATH.	Home.	Mediterranean.	North America and West Indies.	South East Coast of America.	Pacific.	West Coast of Africa.	Cape of Good Hope and East Indies.	China.	Australia.	Irregular.	TOTAL.	Ratio per Cent. of Deaths from Disease.	Ratio per Cent. of Deaths from Injury.	Ratio per Cent. of Deaths from all Causes.
Continued and Remittent Fever	13	12	3	–	1	7	2	8	–	1	47	11·2	–	8·1
Yellow Fever	–	–	3	–	–	34	–	–	–	–	37	8·8	–	6·3
Small-pox	–	–	–	–	–	2	1	12	–	–	15	3·6	–	2·5
Disease of the Brain	4	1	–	2	1	–	1	2	–	1	12	2·8	–	2·
Apoplexy	4	–	3	–	–	3	3	4	–	1	18	4·3	–	3·1
Epilepsy	1	1	–	–	–	–	–	1	–	–	3	·7	–	·5
Paralysis	2	–	–	–	–	1	–	2	–	–	5	1·2	–	·8
Delirium Tremens	–	–	4	–	1	2	–	1	–	–	8	1·9	–	1·3
Insanity	–	–	–	–	–	1	–	1	–	–	2	·4	–	·3
Cynanche	–	–	–	–	–	–	–	–	–	1	1	·2	–	·1
Inflammation of the Lungs and Pleura	24	7	5	1	2	1	–	4	1	1	46	11·	–	7·9
Phthisis	41	6	11	1	–	3	–	18	2	1	83	19·9	–	14·3
Functional and Organic Disease of the Heart	10	3	1	1	2	1	1	3	–	2	24	5·7	–	4·1
Aneurism	2	–	1	–	1	–	1	–	–	–	5	1·2	–	·8
Inflammation of the Stomach and Bowels	8	1	1	1	–	4	–	1	1	–	17	4·	–	2·9
Diarrhœa	–	1	1	1	–	–	–	1	–	–	4	·9	–	·6
Dysentery	–	–	1	–	–	4	1	15	–	1	22	5·2	–	3·7
Cholera	1	7	–	–	–	–	6	15	–	–	29	6·9	–	5·
Inflammation of the Liver	1	3	–	–	1	–	–	3	–	–	8	1·9	–	1·3
Inflammation of the Bladder and Kidneys	1	–	1	–	1	–	–	–	–	–	3	·7	–	·5
Jaundice	1	–	–	–	–	–	–	–	–	–	1	·2	–	·1
Stricture of the Urethra	1	–	–	–	–	–	–	–	–	–	1	·2	–	·1
Rheumatism	1	1	–	–	–	1	1	–	–	–	4	·9	–	·6
Erysipelas	3	–	–	–	–	–	–	–	–	–	3	·7	–	·5
Abscess	2	–	2	–	–	–	–	1	–	2	7	1·6	–	1·2
Disease of the Bones and Joints	–	–	–	–	–	–	–	–	1	–	1	·2	–	·1
Dyspepsia and Debility	1	1	–	–	–	1	–	1	–	–	4	·9	–	·6
Dropsy	1	–	3	–	–	–	–	–	–	–	4	·9	–	·6
Pyæmia	–	1	–	1	–	–	–	–	–	–	2	·4	–	·3
Wounds and Injuries	10	8	11	–	2	4	5	4	1	8	53	–	32·3	9·1
Burns and Scalds	–	–	–	1	–	–	–	–	–	–	1	–	·6	·1
Drowned	16	7	12	3	7	12	5	22	6	9	99	–	60·3	17·
Suicide	–	–	1	–	–	–	–	–	–	–	1	–	·6	·1
Asphyxia	–	–	1	–	–	–	–	1	–	–	2	–	1·2	·3
Poisoning	–	–	–	–	–	–	–	2	–	1	3	–	1·8	·5
Not stated	3	–	–	–	–	1	–	–	–	–	4	–	2·4	·6
Missing	–	–	–	–	–	–	–	–	–	1	1	–	·6	·1
TOTAL	151	60	65	12	19	82	27	122	12	30	580	–	–	–

APPENDIX.

Appendix, No. 1.

PHYSICAL GEOGRAPHY, METEOROLOGY,

AND

MEDICAL TOPOGRAPHY

OF

SOMERSET, CAPE YORK, NORTH AUSTRALIA,

BY

SURGEON T. J. HARAN, R.N.

(In Medical charge of Marine Detachment there.)

Appendix, No. 1.

I PROCEED to detail, as briefly as the importance of each subject will admit, the Physical Geography, Meteorology, and Medical Topography of that portion of the Cape York Peninsula more immediately connected with the settlement of Somerset, and which embraces a considerable area extending from Newcastle Bay, the Kennedy river, which empties itself into it, and a line drawn from the head of that river in a westerly direction to the west coast, on the south, and Cape York on the north. The outline of this area is of very irregular shape, and bears some resemblance to a truncated cone, with its base to the southward. It is surrounded on three sides by the sea, and the Kennedy river almost invests it with an insular character. It is deeply indented with small bays on the eastern shore and near Cape York, and on the seaboard is flanked by islands of similar formation as the main land, the largest of which is that of "Albany," and by an intricate network of coral reefs, prolongations or detached portions of the great "Barrier Reefs," which extend for 1,000 miles along the east coast of Australia, intersect Torres Straits, situated between Cape York and New Guinea, and render the navigation throughout their course hazardous even now, after so much patient toil and perseverance have been expended on their survey. The surface outline of this area presents a series of rugged ironstone ridges and plateaus, separated by deep valleys or undulating plains. The ridges trend for the most part from south to north, and would seem to be diminutive continuations of the mountain ranges which traverse the whole of Queensland, in a somewhat similar direction, the most elevated being contiguous to or not far removed from the sea coast, while the remainder form irregular ranges inland, which separate the watersheds of the numerous rivers flowing through this colony in all directions. They send off shoots towards the eastern shore, where they terminate either in abrupt bluffs enclosing valleys and forming small bays, or in some instances on the eastern, and for the most part on the western coast, they decline gradually into irregular sandy flats, which become continuous

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with the sea shore. The ridges and plateaus are of trifling elevation except on the eastern shore where some of the bluffs or promontories possess an altitude of from 140 to 180 feet above the mean sea level, and Mount Bremner, contiguous to Cape York, which forms the terminal portion of the chain, attains a height of 409 feet. This physical aspect obtains throughout this portion of the Cape York Peninsula, with the exception of a small area along the Kennedy river and Newcastle Bay, where a chain of four fresh water lagoons, not fed by streams, and some peat swamps on a sandy bottom, have been discovered. The valleys and plains are watered by several small streams which chiefly issue from the ridges, and after a variety of tortuous windings and interlacing, empty themselves into the sea. They constitute the drainage of the rainy season, inasmuch as last spring (October and November) the greater number dried up altogether, while along the courses of the remainder only a few water holes could be seen far apart; even the lagoons shrunk considerably at this season; and it is worthy of remark that when the water in them receded from the ordinary margins, and exposed the bottom for a considerable distance from their circumference, a regular tidal ebb and flow became observable at the periods when similar phenomena occurred in the adjoining sea. These ebbings and flowings were not noticed while the lagoons maintained their usual level. The water continued quite fresh, so that mere porosity of the intervening soil will not explain why such ebbings and flowings should take place. The streams in the neighbourhood were all dried up, the Kennedy river so far removed that it could have exercised no influence, and the sea more than half a mile distant. Had any admixture with the sea taken place the lagoon water must have become brackish, but, as just stated, it continued quite sweet. Were the lagoons spring fed, no diminution of their bulk would have taken place, but being on the contrary the drainage of the rainy season, like the streams, they become reduced during the hot weather by evaporation and the failure of the supply. I can therefore adduce no other reason in explanation than the indirect influence of the tidal ebb and flow, acting as a "*vis a tergo*," but how it was exercised I am at present unable to account for. The water supply of the settlement was not interfered with by the early drying up of the streams and shrinking of the lagoons, except in so far as some labour had to be expended in deepening the well from which it was obtained, and there is not the most remote danger of a failure of the supply, as abundance of water can always be procured by digging to a sufficient depth.

The geological formation consists generally of a surface layer of igneous rock undergoing slow disintegration everywhere, except in the dense scrubs which the sun's rays cannot penetrate, and this rests on a dense stratum of coarse quartzose sandstone, from 20 to 30 feet thick in some places, which may be presumed to overlay granite, porphyry, or granitic conglomerates, as it has been observed so resting at Cape York, and in some of the disrupted bluffs in the Albany Pass, or the narrow strait between the mainland and Albany Island. There is distinct evidence that this island at least must have, at some remote period formed an integral portion of the continent, inasmuch as the projections in the land

are

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are directly opposite, and appear exactly as if they would fill the indentations in the island, and *vice versâ*, while the disrupted bluffs on both sides are also directly opposite. This formation obtains everywhere in the ridges and plateaus, but is somewhat diversified in the valleys and plains, where the surface soil consisting of ironstone clay, or sand or a combination of both, with decayed vegetation in many localities, rests directly on coarse white sandstone. The surface soil on the ridges is very scanty, and consists principally of decayed vegetation with a very small admixture of ironstone clay, but the latter increases rapidly in quantity when the scrub is cleared away, as the blocks of ironstone strewn about, then undergo rapid disintegration. In the valleys and plains, as already stated, it consists either of ironstone and decayed vegetation, of ironstone alone, of sand and decayed vegetation, of sand alone, or a combination of the three in varying proportions. In the vicinity, and for a considerable distance around the settlement, it is not generally suitable for agricultural purposes, although capable of producing good pasturage for cattle and sheep. I have, however, observed narrow patches on the banks of the streams, containing a moderate depth of dark loam, which I think might be cultivated with a fair prospect of success. Hitherto, I regret to say, that little good has resulted from our gardeners' efforts, as the site for the garden was badly selected, and has been abandoned altogether after the commencement of this rainy season, as a few days' rain converted the ground which had been prepared with care into a miry swamp. On the western coast, however, the soil is abundant and apparently very fertile, but it is too far removed to be made available by the present residents.

The ridges and plateaus are densely covered with forest or scrub, containing an immense variety of trees indigenous to the entire continent, and only a few which can be said to be essentially tropical, while the valleys and plains are more sparsely clothed. Belts of scrub, however, intersect them in all directions, while trees, either isolated or in small clusters, stud the intervening spaces pretty thickly, and it is rarely that even a small patch clear of them can be met. The trees on the flats, with few exceptions, do not differ from those of the ranges as far as species are concerned, but as a rule they are stunted, consisting chiefly of Grevilliæ, Banksiæ, and Casuarinæ, especially such as grow in small clusters, or isolated, as it would appear that owing to the sterlity of the soil an isolated tree cannot bear such brilliant foliage as its fellow in the belts of scrub, or in the thickly wooded ridges is enabled to do, by means of the stimulus afforded by increased heat in dense forests, where every leaf that falls becomes as it were manure, and there can be but little evaporation where the sun's rays do not penetrate. Amongst a most varied assortment of trees found on the ridges and belts of scrub, and which it would be tedious to enumerate even if I could, the most conspicuous are :—Many species of gumtrees (*Eucalypti*); the Mimusops Kaukii, which bears a small reddish fruit; several species of Eugenia, of which three bear edible fruit of agreeable flavour; coral trees (*Erethryneæ*); four species of Palm, viz.: Caryota urens, Seaforthia elegans, Calamus, and Corypha; a few varieties of Ficus, one of which bears fruit of sweet but insipid flavour, and several other trees bearing berries, on which the birds subsist. Interlaced and intertwined

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twined with this dense array of forest trees are found several varieties of climbers, vines, ferns, parisites, and creepers, two species of ratan, (*Calamus Australis* and *Flagelleria Indica*) and Orchids, and epiphytes, which attract attention by the curious manner in which they adhere to the trees. On the borders of the scrub chiefly, are found two species of Pandanus, P. spiralis, and P. pedunculatus, the Wormia alata, a most remarkable tree, the Cochlospermum Bombax (silk cotton tree), and an intricate belt of stunted bushes; while in the open ground gum trees, Moreton-bay Ash, a few specimens of Acacia, one a creeper, Tea trees (*Melalucæ*) Grevilliæ, Casuarinæ, &c.; clusters of bushes and sometimes the Pandanus and Eugenia species constitute the principal portion of the trees present. These flats or open plains are covered with grass of inferior quality in the immediate vicinity of the settlement, but it improves further away, and through it during the rainy season and autumn a great many creepers, some of which bear handsome flowers and others springing from edible bulbs or roots are observed running in all directions. One of these, a species of vine, bears clusters of dark fruit, resembling grapes, which are astringent and not pleasant to the taste. On the banks of the rivulets and borders of the lagoons are found clusters of bamboos, and in the vicinity of the peat swamps and lagoons a dense growth of Casuarinæ, a species of auricaria, and several varieties of heath (*Epacridaciæ*), while the pitcher plant (*Nepenthes distillatoria*) has been seen in several places on the banks of the streams but not close to the settlement. I have been told that sandal wood and cedar grow on the west coast, but as I have not seen any I cannot be certain; it is however exceedingly probable. The edible roots that I have seen consist of two species of wild yam (*Dioscora bulbifera*), the Callidium esculentum, a tuber not very unlike the potatoe in flavour and taste, which grows on Albany Island in small quantity; and several roots, with little flavour or nourishment, of a few species of convolvulus. To this scanty supply of edible roots, and the edible fruits, already enumerated, I have to add the banana or plantain, small clusters of which have been found very far apart on the peninsula; a wild cherry which grows in abundance, and the fruit of the Pandanus pedunculatus, neither of which can afford much nutriment. These vegetable productions in combination with fish or turtle, when they can procure them, constitute the principal food of the natives, but they are not at all particular as to what they do eat, no doubt because it is not often excepting in the fishing season when they appear sleek and fat, or when some windfall in the shape of a semi-putrid shark or porpoise, thrown up on the beach enables them to gorge themselves, that they can procure food more than sufficient to allay the cravings of hunger. The only medicinal plants that I have seen here are the ginger, nutmeg, and acacia, but it does not follow on that account that there may not be a large number. I know that several varieties of the berries produced by the scrub-trees must be poisonous, as the natives will not eat them, but whether they possess any medicinal virtues is exceedingly doubtful. The castor oil plant has been introduced and flourishes, but the berries are small and contain very little oil, while the plant itself appears to have degenerated; and, lastly, the mangrove, rarely met with

with except in malarious swamps, fringes the greater number of small bays round this Peninsula, but fortunately does not here indicate the existence of miasmatic exhalation.

The zoology of the district does not offer many specimens of the mammalia, and does not, as far as I am aware, differ very much from the singular zoology of the entire continent. There are a few species of marsupial animals, consisting of wallabies (a diminutive kind of kangaroo) and opossums; the native dog, an ill-favoured cur; the native cat, rather pretty, but very destructive; two specimens of rats, the bundicoot (*Mus giganteus*), and a smaller species, the "Mus Indicus;" and several specimens of bats, the largest and most remarkable of which is the flying fox (*Pteropus conspicillatus*).

Among the birds, however, there is a vast variety, and some are of magnificent plumage, while the migrations that take place during the pairing season are very interesting. There are many specimens, constant residents of the Peninsula, and of them the most remarkable are:—the Emu, the Osprey, an enormous black parrot (*Microglossus aterrimus*), the rifle bird (*Ptiloris magnifica*), a species of bird of Paradise, the female of which species, instead of displaying the gorgeous colours of the male, must rest content with a modest plumage of brown and white; the white cockatoo; the green pigeon; several species of dove, all of brilliant and varied plumage; a few representatives of the owl tribe; the Brush turkey (*Talegalla Lathami*); another but smaller species of turkey, the Megapodius tumulus; both species build up large mounds of earth, in which several of the same family deposit their eggs some distance from the surface to be hatched. The heat in the interior of these mounds is considerable; the mound constructed by the Megapodus is twice larger than that of the Talegalla; and how such small birds, no larger than a moderate-sized pullet, can heap such masses of earth together is truly astonishing, as some that I have seen are from 10 to 15 feet high, and from 20 to 30 feet in circumference. Three species of Heron, the Leatherhead (*Monk bird*), Bower bird (*Chlamydera cerviniventris*), whose curiously contrived and artistically constructed bower is truly marvellous to behold; the Aplonis metallica (a species of starling); some hawks, three species of oriole, and a few others of no very striking appearance; comprise all I have seen. The migrations commence about the beginning of September, and it would appear as if the greater number of immigrants came from the direction of New Guinea. Some species, however, are known to be inhabitants of the southern limits of Australia, especially the Blue Mountain, and Rosella parrots. The Torres Straits pigeon (*Carcophagus luctuosa*) is one of the first to migrate. They come from New Guinea and the adjoining islands in large flocks, and afford a substantial addition to our dietary. They remain during the whole of the rainy season, and do not finally disappear until the following March. The majority of the rest come with the rains, and disappear before the end of March. The most remarkable comprise five distinct species of kingfisher, which I have seen; and I believe there are more which I have not; the former consist of Dacelo gigantea, the laughing jackass of the southern districts, there possessing indifferent plumage, but here gorgeously arrayed; Tanysiptera sylvia, a mag-

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nificent specimen, with two long feathers in its tail; the Alcyone azurea, and the Pitsilla, and another less gaudily arrayed specimen I cannot name; several species of hawk (*Astur*), and a true falcon (*Falco frontatus*); several species of bee-eaters, and conspicuous among them, a small one with variegated plumage, chiefly of greenish shades, the "Merops ornatus;" one species of Pitta* (*P. strepitans*) with equally as brilliant and variegated plumage as the kingfisher; three species of Shrike (*Lanius*), in one of which the trachea of great length is coiled in a circle on the breastbone directly under the skin, the pulmonary end descending over the top of the sternum into the thorax. The voice of this bird is singularly hollow; it is here called the trumpeter or ventriloquist; † two species of landrail; a few of sunbirds; one nectarine; several of flycatchers; and one species of cormorant (*Phalacrocorax melanoleucus*); while a few species of thrush (*Turdus*); tits (*Parus*); sparrows (*Pyrgita*); and two of crows (*Corvus*), one being the "Corvus coronoides," complete the most important portion of the migrating species. A number of other birds which appear at certain periods, and cannot be seen at others, necessitate a third division, as they cannot be classed under the stationary or migratory. Of these I have seen the following:—Two species of gannet (*Sula*), S. fusca, and S. piscator; two of tern (*Sterna*), S. gracilis, and S. melenauchen; two of sandpiper (*Tringa*); one a small kind, and the other the curlew sandpiper (*T. subarquata*); a species of bustard (*Otis Australasiana*); one of quail (*Coturnix*); several of wild duck, and one of wild geese (*Cereopsis Novæ Hollandiæ*), which differ considerably from members of the same species found in New South Wales. No doubt there are many other varieties besides those I have seen. I am informed that on the west coast two species of parrot were observed which have not hitherto appeared on this side, as also some pigeons and doves of rare plumage; and as I have every reason to depend on the accuracy of the information received, strong proof exists that there must be many species not yet discovered. I have only described such as I have seen, and of most of which I possess specimens, but I trust that next year I shall be able to afford additional information on this subject.

There is a considerable variety of reptiles in the neighbouring seas. Four species of turtle (*Chelonia*) are found the greater part of the year, but it is only at the season for depositing their eggs, from October to March, that they congregate in large numbers. They are all edible, three of different sizes being the common green turtle, and the fourth the hawksbill (*Caretta imbricata*); while during calm weather, in the hot season, a formidable-looking alligator or crocodile, from one of the adjoining bays, frequently exhibits itself in the Albany Pass and in Somerset Bay. These reptiles inhabit the sluggish Kennedy River in considerable numbers. On land there is a varied assortment of lizards, some of considerable size, and a few Iguanas, of which I have seen several, three or four feet long, and proportionately bulky. There is a much larger number of serpents than the quality of the soil, vegetation, &c., would lead

* Male of reddish and female of greenish plumage.
† A sobriquet conferred on it by the men of the detachment.

lead one to expect, but they are not nearly so annoying now as after our first landing. Amongst a great many I have seen are, one, *Anguis*, a transition species somewhat similar to the slow worm or blind worm, not poisonous; many diminutive specimens of the "Boa," the diamond snake of Australia, so called from the form of its scales, and from 10 to 12 feet long.* They have formidable rows of teeth and are very voracious, but not venomous, though some people consider them so. Several brown snakes, one of which I killed myself was 9½ feet long. They are not essentially different from others of the same description which infest the entire continent, and are very poisonous. The black snake (*Acanthopis tortor*), and three species of whip snake, one green, and another mottled with white and yellow patches, are all exceedingly venomous. I have not seen the death adder, but it is said to exist on the peninsula. Very few of the serpents frequent the scrub, and, as a rule, they are more frequently seen on the flats or open ground. They almost always get away when approached, but sometimes not, so that a certain amount of caution is required on walking through the long grass or in unfrequented places. Fortunately, no serious accident from snake bite has yet occurred. One man was bitten on Albany Island whilst he was asleep, but as no ill effects resulted, the serpent must have been non-venomous. Appendix, No. 1.

The surrounding sea abounds in many varieties of fish, some of curious form and colouring, but nearly all edible, and of excellent quality and flavour; also in some varieties of crustacea, while the reefs are rich in numerous species of mollusca and radiata, some of which are inhabitants of these seas only. For the present, however, I will enter into no further particulars regarding either, and will reserve what I have to say about them for the remarks for 1866.

The aborigines of Cape York only differ from the natives of other parts of the continent in occupying, if that can possibly happen, a lower and more degraded position in the scale of creation. As a rule they are quite black, which colour they seem to be rather vain of, as they frequently rub their bodies with charred wood burnt for that purpose, and their hair is jet black and straight like that of the Malays and Indian tribes generally. In features members of even the same tribe vary considerably, some presenting those of African negroes, without the woolly heads, but with thick lips and flat noses; others those of Malays and Indians, and a few those of decidedly Arab or Jewish cast, with strongly marked aquiline noses. I believe that such peculiarities are common throughout Australia, and do not throw much light on the doubtful question of the origin of the Australian race. Some ethnologists suppose that they are derived from the Indo-Malay family, and others from the Papuans or New Guinea people, apparently a race of pure negroes, although even amongst them many differences are observed as to features and physical properties. There is reason to believe that the former theory is most correct, as the manners, customs, and language of the Australians bear no affinity to those of the Papuans or members of the same race inhabiting all the islands scattered over Torres Straits, between

* One of these reptiles, 14 feet long, was killed in the Marine Barracks.

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between Cape York and New Guinea, with the exception of the Prince of Wales' Island and several smaller ones between it and Cape York, which are inhabited by a race which would appear to be an admixture of Papuans and Australians. However degraded whatever race they spring from may happen to be, there certainly exists a lower grade of degradation still as far as this race of Australians is concerned. As a rule, they are diminutive in stature, as any tall or well-formed men amongst them owe these advantages to some admixture with the Kowraregas or Kulkelegas, or the natives of Prince of Wales or the other small islands in the vicinity of Cape York, to whom allusion has just been made. They are cunning, treacherous, and revengeful, excessively lazy and dirty, go about stark naked all the year round, and though very cunning in other respects, they either are not possessed of common intelligence enough to show them the utility of building some sort of covering, to protect them from the cold of winter or the heavy rains of summer, or they do not possess sufficient energy to do so. I have seen a few palm leaves arranged into a sort of protection against the rain, but it must have been nearly useless, as not even the most simple ingenuity was displayed in the arrangement of the leaves—they were not even overlapped. In the southern districts the natives construct very efficient huts to protect them from the rain. Like all Australians, they do not and cannot be made to comprehend the advantage of cultivating the soil. During the turtling season they subsist on turtle, which they can procure in abundance, and an occasional "Dugong" (*Halicore Australis*), numbers of which then frequent these seas. This season extends from October to May, but small turtle of inferior kind are not uncommonly seen during the rest of the year. They display considerable dexterity in killing turtle and in fishing, prompted no doubt by hunger, and in throwing the spear, prompted by their savage and revengeful nature, but in nothing besides. Their ornaments are rude in the extreme; they consist of strings of variously coloured berries, tortoise shell, strings of twisted grass worn round the arms, corroborie masks made of pieces of tortoiseshell rudely tied together and decorated with cockatoo feathers; large oyster shells are worn by leading men suspended from the neck on the breast; and their weapons, spears, throwing sticks, and stone hatchets,* are all of the rudest workmanship. They have plenty of food during the turtling season, but they fare miserably the rest of the year, when the strong wind, as a rule, does not allow them to venture to sea in their rickety canoes, made from the trunk of the cotton-tree (*Cochlospermum Bombax*), and fitted with rude outriggers. They are then compelled to subsist on the scanty supply of edible roots and fruits previously enumerated, with shell fish collected daily by their women (jins); and very miserable they look. Sometimes a shark or porpoise is thrown up on the beach in a semi-putrid state, but the poor wretches cannot afford to be particular, and the horrible mass is not left long undevoured. They are such arrant pilferers, and withal so treacherous, that only a few are admitted into the settlement, or a good many of them would undoubtedly fare much better. The men

* Made by the Natives of New Guinea, and brought to Cape York by the Torres Straits Islanders.

men are marked on one or both shoulders, over the deltoid muscle, with an oval shield-like device, and on the breasts with other devices, some of them cut so as to bear some resemblance to a heart. The septum of the nose and the lobes of the ears are disfigured, in most of them, by unsightly holes, capable of containing pieces of stick or bundles of leaves half an inch in diameter. I believe they have some sort of ceremony when boys are admitted to the privileges of men, but they do not lose a front tooth as a penalty, as they do in the southern districts. There is no recognised chieftainship among them, but the greatest rogue generally, indeed always, exercises most influence and possesses most wives, as polygamy is practised. They have no idea of virtue or morality, as a woman before marriage, which is a very simple affair, and consists in asking and receiving the consent of the parents—there is no hut to take her to—can practice promiscuous intercourse with the men of the tribe if she chooses, and exercises a little precaution; but after marriage she had better be careful, for women are held in much contempt, and a jealous husband would think nothing of spearing or tomahawking his wife; he could do so with impunity; indeed it is often done. They are a short-lived race, owing, no doubt, to the precarious and often insufficient quantity and quality of their food, and a man of thirty looks as if he were sixty years old. They suffer dreadfully during the comparatively cold weather of winter from inflammation of the gastro-pulmonary mucous membrane, and many die. Their only mode of treatment consists of scarifications made by pieces of glass or oyster shells over the painful places, ligatures, and a very extraordinary practice, which consists in attaching one end of a string to the sick person while the other is held in the mouth of the second, who rubs it along his gums until they bleed, and by this means they fancy that the "bad blood" passes from the sick to the sound person. Boils on various parts of the body are very common when the supply of food is scanty, which is not surprising; but I have seen no case of ague amongst them, although it was said to be a common complaint. I rather think that the so called ague consisted of the inflammatory diseases which prevail during the cold season. Parturition is easy, and the woman is generally about as usual the following day. I believe that the women of the Australian aborigines occupy the most degraded position of any creatures on earth, if their treatment here be taken as a criterion, and I have heard that it does not differ much from that endured by the entire sex all over the continent. Young or old, they are, as a rule, remarkably ugly; but some of the old ones are positively hideous. They do not, however, go about naked, like the men, which would show some innate sense of modesty, but wear strips of palm leaves in front, suspended from a narrow string of twisted grass tied round the loins. Even sheer ugliness is no protection against the effects of the brutal passions of the white man, as, not very long ago, some sailors belonging to a merchant ship which brought some stores here, introduced the least hurtful form of a very filthy disease (gonorrhœa) amongst them, and, as intercourse is somewhat promiscuous, it soon spread amongst all the adults. The creatures suffered horribly, but eventually it disappeared.

They have no idea, because they can form no conception, of a

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Supreme Being, nor of a future state of reward or punishment but in common with all the known tribes of Australia, they believe that after death they are converted into white men by some mysterious process; and the highest flight of imagination on their part cannot fancy a more blissful state of existence than that of the white man, who can command, according to their views, an unlimited supply of biscuit and tobacco, the summum bonum of human enjoyment, so that after death, in the second or white man's state, there can be nothing but annihilation. They must believe in ghosts, and that they do so, their objection to mention the names of their dead proves conclusively. This is their only superstition.

Four tribes of natives inhabit the extreme spur of the Cape York peninsula already defined. They are not distinguished by any peculiarity of form or feature, nor does their language differ, as far as I am aware. They are very often enemies, and become so for the most trivial reasons, and rarely assemble together in the same place. They are the "Gudang," a small tribe numerically, which occupies the land on the eastern shore from Cape York to Newcastle Bay. Meeting them at Cape York, and occupying the north-west coast, is the "Gomokudin." These two tribes hold most communication with the Kowraregas and Kulkelegas inhabiting the neighbouring islands. The "Yadaigan," a large tribe,* inhabits the south side of the Kennedy River, and extends to the west coast, and the "Unduyamo" the north side and part of the territory situated between the west and east coasts, claimed by the Gudang and Gomokudins. I have reason to believe that the four do not muster more than 300 men, if even so many. They have all been very troublesome from time to time, although they were treated with the utmost forbearance.

Brief allusion has already been made to the Kowraregas, natives of Prince of Wales's Island as an admixture of the Australian and Papuan races; indeed they must be so; and for this reason, that though retaining to a considerable extent the physical characteristics of the Australians, and although their arms, the spear and throwing stick, and their contempt for their women are the same, they are taller and more powerfully built, of lighter colour—dark copper, use bows and arrows besides spears in warfare, and have learned to cultivate the ground like the Papuan race inhabiting Banks and Mulgrave Islands; Two other tribes, the Kulkelegas inhabiting Mount Ernest and the smaller islands adjoining it, and the Kokoregas inhabiting the small islands on the west coast, do not differ in physical characteristics from the Australian race, but, from the fact of having learned to grow yams, and exhibiting superior intelligence in other respects, their intercourse with the Torres Straits Papuans becomes apparent. The Papuan tribes of the Torres Straits comprise the "Muralegas" and "Itelegas," inhabiting Banks Island; the "Badulegas," Mulgrave Island, and the "Gumulegas," the islands between it and New Guinea. A tribe named the Miriam inhabit the Murray and Darnley Islands and all the smaller ones adjacent

* The Yadaigan is subdivided into two distinct tribes, viz: the Yadaigan proper, and Yambogines; numerically, this tribe is far superior to all the others inhabiting this portion of the peninsula already defined.

adjacent to each and forming the series situate at the south-eastern extremity of Torres Straits. These are the principal tribes, but I have reason to believe that there are several others of minor importance; and, with the exception of the Murray and Darnley islanders, who of late years have been friendly towards Europeans, these tribes are known to be merciless savages, who invariably murder any unfortunate shipwrecked crew compelled to seek shelter on the inhospitable shores of their islands. Appendix, No. 1.

The meteorological table annexed, which contains a condensed monthly summary of the observations registered here several times daily, and without intermission during the year, presents the most convincing data for forming an estimate of the character of this climate; and, although a considerable variation will take place from year to year in the general characteristics of even a tropical climate, it will in all probability be found to constitute a fair average of the alternations to be anticipated at the different seasons.

It shows how, in addition to the diurnal oscillations exhibited by the barometer, the atmospheric pressure attaining its maximum about 9 o'clock, a. m. and p. m., and its minimum at 3 o'clock, a. m. and p. m., there is a well-marked annual variation depending on the seasons; the mean pressure during the hot months, or from the end of October to the end of April being much lower, owing to the expansive effects of increased temperature than the average maintained the rest of the year, when the direct influence of the sun being withdrawn, the atmosphere acquires increased density, or statical pressure. As happens in every climate, but particularly within the tropics, the position of the sun in either hemisphere defines the character of the seasons at Cape York; but inasmuch as the warm and cold seasons merge, the one into the other, by almost imperceptible gradations, I think that a division depending on the character of the prevailing winds would be far more explicit and satisfactory. I will, therefore, designate them the "dry," or that extending from the middle of March to the middle of December, when south-easterly winds prevail; and the "rainy," or that between the middle of December and the middle of March, when variable, but chiefly north-westerly winds and calms predominate. Having observed two changes of this description in succession, I am of opinion that I am justified in assuming that the alternations of season take place annually about the same periods. During the first, or dry season, as the mean temperature shows, warm weather may be expected at its beginning and termination, but during the months of May, June, July, and August, the weather continues pleasantly cool and invigorating. The season, however, is only comparatively dry, as very heavy showers of rain fell the end of March, and irregularly, but in smaller quantities the remaining months, while the wind occasionally, and always during full or change of the moon, or both, assumed for a few days the character, of land and sea breezes, being south-easterly by day, south or south-westerly by night. During the second or rainy season, the weather is usually oppressively hot for a short period before the rains, but while they continue, and for a considerable period, subsequently, it is cool, but somewhat damp from exhalation. The changes of the seasons are preceded and accompanied by gloomy and unsettled weather, squalls and electric phenomena of a very mild character;

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but I consider that the designation of the south-easterly and north-westerly monsoon seasons bestowed on them, a very great mistake, as the winds in both are wanting in that essential particular characterizing a monsoon wind, I mean steadiness. I am therefore of opinion, that neither is a monsoon wind, and that this spur of the peninsula, and a considerable area on either side of it, are a species of debatable ground, where, during nine months of the year, south-easterly winds for the most part prevail, and are replaced during the hot or rainy season by winds from all parts of the compass, but mostly from the north-westerly quarter, and by frequent calms. These variations are essentially dependent on the sun's position, but I believe that local causes also exercise considerable influence, our almost insular position being a most important one. The mean temperature for the year, 80·2, is an unerring indication of the enormous amount of evaporation constantly going on in the surrounding seas, and it is to the atmospheric humidity, caused by it, as well as to the south-easterly winds, both of which temper the heat, which would be otherwise excessive, that the comparative mildness of the climate is attributable. During the hot weather, and indeed throughout the year, such portion of this vapour as the atmosphere cannot hold in suspension is precipitated as rain, but while the south-easterly winds continue, an immense quantity of it is carried away as cloud or scud, and this will account for the general dryness of the season while it lasts. It is, therefore, during calm or light winds, and when the sun is either vertical, or nearly so, that most rain falls, and fortunately this period does not continue long at Cape York, for dry weather, however warm, is preferable to damp weather, however cool. Before quitting this subject I have to remark, that the sudden and extreme vicissitudes of temperature experienced in the southern parts of Australia, depending, no doubt, on the geological formation of the interior of the continent, described as " a stony desert," have not been, nor are they likely to be, felt here. Our maximum range occurred during the prevalence of the " land and sea breezes;" at other periods the range varies but little.

The settlement of Somerset occupies a very picturesque position on the eastern shore of the peninsula, five miles to the southward of Cape York, and opposite Albany Island. The site consists of a series of ridges of about 140 feet elevation at the highest point, and intervening valleys or irregular flats. The buildings composing it are at present few in number, and although constructed of wood are substantial, well ventilated, and suitable to the character of the climate. The marine barracks, officers' quarters, and hospital are situated on Somerset Point, the hospital at an elevation of 140 feet, and the remainder at seventy, while the buildings occupied by the colonial officials are somewhat removed by an intervening flat, and occupy the nearest ridge to the south of Point Somerset and its base. They consist of the police magistrate's house at an elevation of 140 feet, the lock-up, or prison, on the north-west slope of the ridge and the custom-house at its base. All, with the exception of the custom-house, are built on sites which were covered with dense scrub previous to our arrival, and are within convenient distance of an unlimited supply of water. The narrow strait situated between the mainland and Albany Island is known as the Albany Pass; a small bay

bay in the island opposite Point Somerset is called Port Albany, and another on the mainland in the centre of the settlement, very shallow and not likely to be of much use, and situated between Point Somerset and the next projecting spur, is called Somerset Bay. Appen No.

The extent and configuration of the reefs along the coast, the narrowness of the Albany Pass, and counter currents interfering with the general set of the great oceanic current along the north-east coast of Australia, cause high tides at periods besides those of spring in Somerset and the adjoining small bays, but only during the prevalence of south-easterly winds, and when they blow with most force. During these high tides there is a rise and fall of ten feet in the Albany Pass, and the tides rush through with considerable velocity, thus lessening very much its importance as an anchorage.

Whatever may be the merits or demerits of Somerset as a settlement, there can be no doubt as to its being pre-eminently the most suitable position for a harbour of refuge, which I believe was the principal object of the Home Government in establishing it. It is within a short distance of these dangerous channels amongst the reefs along the north-east coast and in Torres Straits, which have wrecked so many ships, and is on that account free from the most serious disadvantage connected with the other settlements at Melville Island, Raffle's Bay, and Port Essington, founded along the north-west coast at various periods since 1823, which were situated some hundreds of miles from the scene of those disasters, while its undoubted salubrity further enhances its value, and its commanding position in Torres Straits must, in the event of a general European war, lead to its unhesitating occupation as a most important military post and naval station.

A condensed Monthly Summary of Meteorological Observations

Latitude, 10° 44′ 00″ South.

MONTHS.	Barometer. Corrected to Mean Sea Level and 32° Fahrenheit.					Thermometers in Shade (Hygrometer). Dry Bulb.					Moist Bulb.					Elastic Force of Aqueous Vapour at Temperature of Dew Point.				
	Maximum.	Mean Maximum.	Minimum.	Mean Minimum.	Mean.	Maximum.	Mean Maximum.	Minimum.	Mean Minimum.	Mean.	Maximum.	Mean Maximum.	Minimum.	Mean Minimum.	Mean.	Maximum.	Mean Maximum.	Minimum.	Mean Minimum.	Mean.
January	29·979	29·903	29·702	29·740	29·819	94	89·	75	75·6	82·3	86	84·3	74	74·6	78·7	1·218	1·151	·812	·826	·917
February	29·910	29·897	29·702	29·773	29·837	90	88·	74	75·3	82·4	84	83·	74	74·6	79·	1·057	1·050	·801	·827	·906
March	29·978	29·938	29·672	29·721	29·841	95	89·3	77	77·3	83·6	90	84·6	75	76·	79·	1·282	1·120	·759	·776	·910
April	29·993	29·951	29·768	29·819	29·886	88	87·3	79	81·3	83·1	80	79·3	72	74·3	76·8	·927	·919	·679	·718	·825
May	30·086	30·012	29·778	29·822	29·903	85	83·6	78	78·6	80·6	80	79·	73	73·6	75·6	·927		·723	·736	·827
June	30·079	30·021	29·750	29·805	29·917	82	81·	66	69·6	77·3	79	78·3	57	61·3	78·3	1·000		·496	·515	·765
July	30·089	30·059	29·808	29·872	29·947	80	78·6	69	73·	76·5	76	75·6	67	69·	73·1	1·000	·909	·619	·624	·771
August	30·020	29·991	29·841	29·883	29·935	79	77·6	73	75·	76·4	75	75·	70	70·3	72·3	·862	·846	·619	·641	·727
September	30·022	29·993	29·761	29·838	29·908	87	82·	74	75·6	77·6	76	76·	64	67·3	71·9	·867	·858	·453	·492	·701
October	30·018	29·978	29·793	29·852	29·917	87	83·6	77	77·6	79·6	78	77·6	70	70·3	74·5	·873	·873	·560	·598	·774
November	29·986	29·956	29·768	29·840	29·885	90	87·3	77	77·3	81·8	81	80·	73	74·3	76·8	·839	·905	·617	·720	·837
December	29·918	29·891	29·662	29·719	29·789	92	87·3	72	75·	82·8	81	80·3	72	73·	77·	·964	·937	·703	·708	·830
Total	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Means	30·006	29·965	29·750	29·807	29·882	87·4	84·5	74·2	75·9	80·3	80·5	79·4	70	70·7	75·6	·993	·955	·653	·681	·815

\- - - - - - - - - - registered at Somerset, Queensland, North Australia, during the Year 1865.

Longitude, 142° 35′ 48″ East.

Humidity, complete Saturation being estimated at 1,000.					Self-registering Thermometers.							Diurnal Range.			Rain Gauge.					REMARKS.
					In the Shade.					In the Sun.						In one Day.				
Maximum.	Mean Maximum.	Minimum.	Mean Minimum.	Mean.	Maximum.	Mean Maximum.	Minimum.	Mean Minimum.	Mean.	Maximum.	Mean Maximum.	Maximum.	Minimum.	Mean.	Total Rainfall.	Maximum.	Minimum.	Mean.	Days of Rain.	
															Inches.					I have observed that the quantity of ozone in the atmosphere is regulated by the force and direction of the wind. It attains its maximum with strong winds blowing *from the sea*, and its minimum in calms and light winds blowing *off the land*. I used Dr. Moffatt's scale, and papers prepared according to his process. *T. J. H.*
1·000	·966	·595	·654	·825	99	89·	73	75·6	82·4	122	116·5	23	3	13·3	17·36	5·20	·01	·86	20	
1·000	1·000	·624	·698	·848	94	89·3	72	74·3	82·2	132	123·9	20	6	15·	14·74	2·00	·03	·70	21	
1·000	·965	·592	·650	·792	95	90·	73	76·5	83·2	130	109·6	21	7	13·4	8·47	3·10	·01	·56	15	
·871	·806	·569	·668	·728	92	89·3	73	77·	83·4	112	101·4	19	8	12·	·03	·02	·01	·015	3	
·902	·885	·655	·692	·785	93	85·	72	75·	80·3	110	98·	20	6	10·	·97	·50	·01	·06	15	
1·000	·982	·617	·649	·806	84	80·9	61	72·8	76·8	108	96·	20	5	8·	1·61	·22	·01	·07	22	
1·000	·948	·650	·680	·839	83	80·6	65	71·3	77·	118	104·	16	5	9·	1·06	·30	·01	·06	16	
·945	·912	·667	·707	·795	83	80·3	70	72·8	76·6	106	98·	13	5	8·	·42	·06	·01	·13	15	
·945	·912	·401	·463	·744	87	81·6	64	71·7	77·1	120	103·6	23	6	9·8	·15	·06	·02	·03	4	
·900	·869	·496	·568	·758	89	83·6	68	74·8	79·4	115	101·	21	3	8·8	·19	·09	·01	·03	5	
·948	·900	·583	·647	·768	94	86·4	75	77·6	81·8	115	105·7	18·	5	8·8	·73	·32	·02	·08	9	
1·000	·951	·537	·614	·748	93	88·1	72	77·2	82·7	120	110·	19	5	10·9	7·33	1·80	·01	·01	12	
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	53·06	–	–	–	157	
·959	·924	·582	·640	·786	90·5	85·3	69	74·6	80·2	117·3	105·6	19·5	5·3	10·5	4·42	1·14	·013	·257	13·0	

No. 2.

Appendix, —

s, and Medical Topography of

ppendix, No. 2.

Meteorology, Course of the Season *G. W. J. Sutherland*, M.A., Shanghai, by Assistant-Surgeon H.M.S. Acorn.

aximum temperature has been

emperature.

DURING the past year (1865) the m, showing a total range of 75°. 98°, and the minimum 23° Fahrenheitmometer, however, is gradual, This very great descent of the theadaptation of all temperaments and there is ample time for the atmosphere. It is from sudden to so altered a condition of the atehended during the latter part daily alterations that danger is apprefly caused by the shifting of of the year. These changes are chi*versâ*, which render changes of the wind from north to south, or *vice* he same day. I have observed clothing absolutely necessary during ty from 70° to 40°, and even the thermometer to fall in this w lower.

season at this place partakes of

he Winter eason.

When there is no wind, the wi hen the warming effect of the the character of summer, and , &c., is palpable. When the sun under the lee of houses, blows from the south, it is the sky is unclouded, and when t at renders them powerless in obliquity alone of the sun' e open air. their exhaustive effect on pe ailed with satisfaction by the

The arrival of winter is d of care arising from mental careless and prudent alike. ife, and the dull in-door exis- depression, the uncertain tenure er is removed, and the vigour tence which must be observed in su s itself by indulgence in the of the European constitutions asserthe native country, and utterly customs and practices peculiar to c. foreign to the tamer life of the Asiatperiod are few, and generally

The diseases incidental to this pnatic. If a case of continued trivial. They are essentially non-cli, it may be almost invariably or intermittent fever presents itselhot weather. Diseases arising traced to an earlier source in the l and rheumatic affections, are from indiscretion, as well as catarrhareatment. This period is also the common forms that come under tatic disease, such as dysentery, characterised by those cases of climsummer, and are prolonged into diarrhœa,&c., which originate in the f temperature are unfavourable the cold weather. Rapid variations oually aggravate them. When to the cure of these diseases, and usblished I cannot satisfy myself the abnormal condition is once esta-climatic period is beneficial in that the approach of the cold and nor any marked degree.

n's altitude increases daily, the

he Spring.

On the advent of the spring the su hirsty soil, which is shortly spring rains pour down on the dry a ich the farmer plants his converted into a muddy puddle, i tence then sprouts forth summer crops. Every kind of orga l water teem, under the with uncommon activity; the air, ea th rank and procreative influence of a fostering sun and moist he end of June) to the life. This is a period of danger (Ap ecause even the most foreigner, because it developes malari essive heat with the prudent, wrongly associating the ide prevalence

prevalence of sickness have not yet adopted those precautions so imperative during the months of July, August, and September. It is to this cause that the uncommon virulence of cholera cases observed in May and June is, I believe, to be ascribed. Appendix, No. 2.

The summer.

When the summer is indeed come, no foreigner ever faces the sun during its strength, if he can avoid it, but walks abroad in the evening or early morning. His clothes consist of cotton or linen articles of the lightest description, and a protective hat or helmet. In this way he imitates the fashion of the natives, who are seen in the fields at work with a broad-brimmed hat (two feet in diameter) and the rest of the body in a state of semi-nudity. I do not hesitate to assert that there is a certain danger risked by any anyone who wears, voluntarily or on compulsion, dark or blue clothing of any sort. Intelligent foreigners on shore would think it utter madness to do so. It is no uncommon thing to see coolies struck down with sunstroke in the streets, and yet captains of merchant vessels frequenting this place may be seen in blue coats and black hats, with the thermometer at 95° in the shade, pulling about the harbour, or walking on shore. Moreover, I have seen officers in blue clothing exposed to the sun's rays, and directly afterwards, indicating the co-relation of cause and effect, seized with cholera or fever.

These observations lead to the deliberate assertion that it is not merely indiscreet, but dangerous, to use dark or blue clothing in the summer, for the following reasons: it helps to retain the animal heat; it hinders that freedom of perspiration, which is the proper safeguard of health, by its cooling the body through the deposit of perspiration on the skin; the cessation or hindrance of the process raises the animal heat, and clearly interferes with the intentions of nature to keep the body cool; by the arrest of, and interference with, this process, is created an immense amount of personal distress and suffering which exist in quite sufficient intensity, even when the perspiratory function has every facility.

During the summer months, with the temperature ranging nearly to 100° Fahrenheit in the shade, and with an atmosphere surcharged with moisture, and depositing a large quantity of dew every night, this place is infested with diseases peculiar to a locality traversed by a muddy river, with swampy and reed-covered banks, laid bare at each ebb of the tide. Dysentery, diarrhœa, cholera, and continued and intermittent fevers are the prevalent forms. The native and foreigner are alike depressed and exhausted by the heat—a moist heat, extremely enervating in its effects. Mental depression is common; the ordinary topics of conversation are the latest deaths or the last case of fever or cholera, and everyone seems to feel that he carries his life in his hand. Puerperal women often suffer fatally. Everyone has ideas of his own as to the proper regimen and precautions to be adopted. One avoids animal food, another vegetables, while a third indulges in nothing but chicken soup. As a general rule, those who have resided some years find that, during the latter part of their stay, an indulgence in stimulants is more imperative in maintaining their strength than during their first or second summer. But, although the necessity

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for some modification in diet and habits is universally acknowledged, and although it is admitted that food and drink of the best description are indispensable under such a wear and tear of the system as a summer residence here entails, yet the importance of maintaining the proper activity of the secreting and eliminating functions is too much overlooked and neglected. A good diet is essentially necessary, and so at all times is the elimination of effete products, but more especially so in the summer, because it is then that crudities in the blood, overloading the stomach, &c., are most apt to cause mischief. The appetite in the summer almost entirely fails, and one eats from habit, unless exercise is taken to produce it. I look upon this as the only secret of health in the East, namely, the use of a spare but good diet, and sufficient healthful exercise to work it off (to use a vulgarism). This assertion is supported by the good state of health enjoyed by most of those who take horse exercise morning and evening during the hot months. But it follows naturally that those are most liable to sickness who, regardless of the promptings of nature, take means to stimulate their appetites, forgetting that there is no genuine excitant but good exercise, and that the immunity which they enjoy in cold weather may be exchanged in summer for an attack of an inevitably fatal disease.

Although it is a mere truism, and trite enough by this time, that there is no principle more important than that, in a hot climate especially, we should not partake of food without a desire for it, yet there is no principle more generally ignored. Indulgence in the pleasures of the table is, on the part of the residents here, often pushed beyond its legitimate aim and purpose, without sufficient attention being paid to that counterpose to habits of repletion, muscular exercise for the elimination of effete products, as well as of those not required for the functions of the system. If there is any surplus of nutritive matter in the blood, or if the portal system is enlarged and its reservoir, the liver, partakes of the general and customary repletion produced by an excess of ingesta, enlargement and sluggish action of this organ must follow as a matter of course. Hence result various forms of diseases of the stomach and bowels. I have also observed that the common and less severe form of continued fever is nothing more than an indigestion with quick pulse, hot skin, and foul tongue, the symptoms, in short, of a constitutional irritation induced by imperfect or sluggish action of the digestive organs, in proof of which it may be stated that one or two aperients are a sufficient cure.

This subject is of importance solely as regards the extent to which a carefully regulated mode of life may be effective in preventing the encroachments of climatic disease. In active service afloat or ashore, and the consequent exposure to the sun's rays and other causes, dysentery, cholera, and fevers will prevail in this climate, but under ordinary circumstances, precautionary measures will be found highly effective in keeping down the rate of sickness and mortality. These refer especially to non-exposure to the sun, exercise in the cool of the day, the use of light clothing, and protection for the head, a spare but good and varied diet. In this particular, seamen are at a disadvantage, and the substitution of

mutton

mutton and fowl occasionally for the allowance of beef, would be beneficial, as many men declare to me they could not eat their allowance; they sickened of it in the hot weather. This complaint is not a rare one, and it accords with my own experience of the small quantity of beef consumed by those who can afford to buy a more easily digested substitute, as mutton and fowls. Beef is essentially, from the firmness of its fibres and strength of its juices, a cold weather edible.

During the hot months, the necessity of obtaining a good night's sleep is all important. It is then impossible for the men and officers to sleep below, the heat there being simply intolerable. There are two elements of danger, however, in sleeping on deck. 1st. If the deck is damp, lying on it in that state is attended with risk, which is obviated by stretching the cot or hammock some feet above it: 2nd. Unless the deck is thoroughly protected by awnings and curtains, the persons of the sleepers will assuredly be wet, and their clothes saturated with the heavy night dew, which, owing to the rapid cooling of the earth's surface after nightfall, is deposited in large quantity. I have seen the meshes of a mosquito curtain on the side on which the wind played filled with dewdrops and the occupant all moist and chilled, thus running a great risk of serious illness.

The use of the mosquito curtain is imperative on all who desire such undisturbed rest as can be enjoyed when the thermometer not seldom stands at 80° at midnight. There is certainly no comfort nor exemption from torture without it. What then must be the condition of the seaman under such circumstances? Half through the night he has to endure the attacks of numberless tormentors; the trouble of killing them is, if gratifying, unavailing, and after fruitless efforts, he gives up the contest, and in the small hours of the morning falls into a troubled sleep, which is neither refreshing nor lengthened enough to produce the required beneficial effect. Occasionally troublesome ulcers on the legs and feet follow the infliction of the mosquito bites and the unavoidable scratching. A mosquito curtain, large enough to cover a hammock or cot, could be procured for two or three Mexican dollars.

During the summer the heat of the body is maintained as well by the processes of arterialization of the blood and the oxidation and secretion of carbon from the blood in the lungs as by the elevated temperature of the period. The vital processes referred to are therefore required in less activity, as far as concerns their function of maintaining the animal heat; but as the evolution of the carbon from the system by the lungs forms an integral part of this function, it follows that, under the altered circumstances affecting the constitution in summer, this carbon must find an outlet by other means than the lungs, most probably by the liver, which has this additional work thrown upon it. If it be correct to suppose that this carbon is an ingredient in that portion of the blood which is absorbed for the performance of the vital processes, it is fair to conclude that a smaller quantity of it is required in summer (the heat of the body being maintained from without); in other words, that less food is necessary for the requirements of the system. That less food is

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actually consumed is well known, and it is generally believed that the excretion of the carbonic acid is also less during the summer heats. This circumstance is a clear indication of the expediency of indulging in a spare diet, as regards solids. Indulgence in fluids is an absolute necessity; in consequence of the enormous quantity of the perspiration (amounting, it is said, to 70 oz. daily). Moreover, so great is the langour and listlessness to which all foreigners are subject, that only mild and gentle exercise is admissible, and a condition of the system induced which is totally at variance with the customary vigour of the European constitution.

It is not intended by the above remarks to hazard the conclusion that the strictest compliance with hygienic rules will be followed by freedom from climatic diseases, hepatic enlargement or asthenia, caused by a residence, temporary or permanent, in this place. The most complete exemption from these complaints does not secure immunity from constitutional deterioration more or less severe, and caused most probably by the high range of summer temperature, by the malaria and the profuseness of the perspiration, for which the constitution of the European is less fitted than the native. It therefore follows that early decay of the physical vital powers through climatic influence does not fall to the lot of the latter; nevertheless he is not exempt from epidemics, so destructive to Europeans for the past four years; for it is well known that in the summer of 1863 the natives were dying at the rate of from five to six hundred a day, from dysentery, cholera, and fever, which, moreover, constitute the majority of the cases at the native hospital.

The most that can be stated is, that attention to a regulated habit of life will lessen in a signal manner the amount of sickness and mortality, and render human life more secure during the intolerable summer heats, because, with a fair trial and careful management, the resistent power of the European constitution, even under such unfavourable circumstances, is capable of warding off local epidemics for several years, after which the liability to attacks becomes greater, in consequence of the decay of the system. While this remark is unfavourable to any theory as to the practicability of a foreigner being acclimatized in such a place as this, it serves to account for the increased sickness amongst the crews of gunboats during the latter part of a commission, more especially when such vessels are stationed at the mouths of rivers in the vicinity of swampy marshes and mud-flats that border on foreign settlements.

Causes that have tended to decrease the rate of sickness at Shanghai.

During the past two years, the country having been cleared of rebel hordes, and being again occupied by refugees returning to their homesteads, active efforts were made throughout this province to bring the soil, meanwhile covered with rank and coarse grass, affording shelter to myriads of pheasants, under cultivation. Accordingly the grass was set on fire at intervals, and the face of the ground, the best soil in the world, was swept clean and bare by a sheet of flame for many hundreds of square miles. This circumstance has, I believe, contributed in no small measure to the subsequent healthiness of the entire province, and especially to the comparative mildness of the epidemic ravages during the past year. Moreover, an efficient system of drainage has been carried out at this

this port, and beneficial municipal regulations enforced, by which the health of all residents, native and foreign, on shore and afloat, has been largely improved and the death-rate reduced, thus affording the strongest argument in favour of preventive in preference to curative measures; in fact, there can be no question as to the benefits which would accrue to those who live on the waters of the river, by enforced compliance with a carefully prepared sanitary code, the provisions of which should be as binding on each individual as those of the criminal law. I should have no difficulty in pointing out examples of men, well-conducted and intelligent, serving at this port from year to year with impunity, and of still larger numbers of shore residents whose carefully regulated habits in the summer secure them from disease, although not from constitutional decay.

A sanitary code.

A sanitary code would have in view the important purpose of preserving health and life in this climate, and its public recognition would rationalise and regulate the ill-directed though well-meaning efforts of many persons who dread a climate or station on which they must serve for a certain period, and are unacquainted with the true laws of personal health.

In spite of the unhealthiness of this climate, it may be stated generally, that diseases peculiar to it are greatly preventible by adherence to a code of sanitary laws, the amount of compliance being an exact measure of the extent of sickness, whether in time of peace or war, or during field operations. Such a code would comprise the following particulars:

1st. Non-exposure to the sun's rays during the heat, such exposure being likely to cause fever, or cholera, or sun-stroke.

2nd. The use of a thorough protection to the head, by means of a helmet or ventilating hat, which would enable a current of air to pass constantly over the scalp.

3rd. The use of a varied and good diet, comprising mutton and fowl, as well as beef. The quantity of solid food consumed in the summer rarely exceeds half or three-fourths of what is used in the cold weather, and I have known men gladly exchange their ration of beef for a less quantity of mutton, the latter being the most expensive of the two, and in the proportion of 4 lbs. to 7 lbs. of beef.

4th. Sleeping in a cot or hammock slung several feet above the upper deck, which should be guarded from night dews by means of awnings and curtains.

5th. Security from the torture of mosquitoes, by the use of mosquito curtains, and the resulting boon of a good night's rest.

6th. The use of good and pure water, either by thorough filtration of the river water, or brought from the interior, where numerous and large fresh-water lakes abound. This is a point of much importance, considering the quantity required to be drunk to allay thirst, and supply the blood with the fluid of which it is deprived by perspiration. In summer the stomach absorbs water like a sponge.

7th. The necessity for moderate exercise during the cool part of the day, either in the morning or evening.

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8th. The use of flannel or cotton clothing of light colour and texture, and neither blue nor black, these two colours being rapid absorbents of heat.

9th. I believe the substitution of malt liquors for rum would be beneficial to the men.

The autumn and winter.

The summer may be said to terminate about the end of September; the atmosphere then becomes rapidly cooled by the change of the monsoon, and the nights become cold. It is during the latter half of this month, and the whole of October, that a very virulent and rapidly fatal form of dysentery occasionally prevails, and runs its course in forty-eight to seventy-two hours, its cause being probably the rapid change of temperature consequent on the shifting of the wind at this period.

During the winter months and the spring, the vigour of the European constitution reasserts itself, the appetite returns, and European manners and customs again prevail. The diseases are chiefly catarrhal and rheumatic, and are seldom of a serious nature.

Medical topography.

The rate of sickness at this place during one summer cannot be taken as a criterion of its unhealthiness from year to year. During the past four years, the virulence as well as prevalence of climatic or epidemic diseases appear to be on the decrease, having reached the minimum this year. The causes believed to contribute to so desirable a condition have been already referred to; but while they modify the effects of malaria, they cannot be expected to entirely nullify them, the causes not being removable. It is to this circumstance, I believe, that the greater healthiness of lagre cities in the interior of this province is to be ascribed. At Suchow, 100 miles west of this port, the heat is as great as it is here; but in the absence of steaming mud flats, it is less oppressive, and the city is described to me, by foreigners resident there, as exempt from the terribly exhaustive heat peculiar to Shanghai. On the other hand, Wusŏng, situate at the mouth of the river, and 15 miles distant from Shanghi, has enjoyed much repute from its proximity to the sea, and the beneficial effects of the sea breeze.

Ningpo, another large native city, 100 miles south of Shanghai, and generally the station of a gunboat, possesses the same unenviable notoriety for healthiness as Shanghai. In fact, the Chinese, in building their great cities, were guided solely by commercial expediency, in which they succeeded perfectly, and with which foreigners founding settlements for trading purposes were fain to comply whether conscious or not of the disadvantages of position in a sanitary point of view.

As far as I know, and have learnt, of the cities on the Yangtze Kiang, which are treaty ports (Chinkeang, Kinkeang, and Hankow), during a visit to them in the early part of 1861, they are less exempt from those febrile and intestinal complaints which prevail on the seaboard at the mouths of the rivers, &c. Chinkeang and Kinkeang are situated on lofty and undulating grounds. Nanking, a non-treaty port, and the capital of the Ming dynasty, is bounded on the east by marshes and ponds, which would render their vicinity notoriously unhealthy in summer. At Hankow, the summer heats

are

Appendix, No. 2.

are severe. A large plain to the north-east of the city is submerged during the August and September floods, caused by the increased volume of the river through the melting of snow, and rainfalls in the interior. The river falls (from 20 to 30 feet) in October and November to its former level, and the plain gradually dries, fortunately for the Hankow residents, at the end of the hot season.

From the natural conformation and physical features of the country in the vicinity of those river ports, I do not think they are likely to suffer from local epidemics to the same extent as the coast ports of Shanghai and Ningpo, which latter are situate in a less elevated and more marshy soil, composed of mere alluvial deposit brought down by the immense waters of the Yangtze.

Appendix, No. 3.

Appendix, No. 3.

OBSERVATIONS on a probable Case of Relapsing Fever, simulating Epidemic Cerebro-spinal Meningitis, by *John D. Macdonald*, M.D., F.R.S., Staff Surgeon, R.N., Royal Naval Hospital, Haslar.

. . . . . ., æt. twenty-five, leading seamen, H. M. S. Excellent, was received into hospital April 16, at 12.15 p.m., with the following case from Dr. Henderson, staff surgeon of the ship.

H. M. S. Excellent, 16 April 1868.

"This is rather an obscure case. He complained last evening of illness, and was observed to be unusually silent, resting his head on his hands. At six o'clock this morning he was found lying on the deck some way from his hammock, calling out for water. After being brought into the sick-bay he was three times purged. His present condition is as follows: Complains of headache and pains in his limbs; is incoherent and answers questions with difficulty; surface moderately warm; heart's action feeble; tongue coated with yellowish fur, but moist; is thirsty; pupils somewhat dilated, but acting well. Can scarcely bear to be touched anywhere without calling out with pain. He bears the character of being a sober steady man, and there is no evidence of his having been drinking. There is no mark of injury about the head; on his legs and thighs there are numerous dark spots looking like ecchymoses."

(signed) *J. Henderson*, M.D.,
Staff Surgeon.

On entry, the patient was in a very restless state, with rapid but feeble pulse, furred tongue, and suffused eyes. He was just able to answer one or two questions as to his age, rating, and when he first felt ill. The inferior part of the trunk and all the surface of the lower extremities were covered with bright purple ecchymotic spots or vibices of variable size and shape. He was, moreover, morbidly sensitive to the touch, as noticed by Dr. Henderson.

Soon after the man was placed in bed the head symptoms became more severe, and his previous restlessness assumed the character of convulsions, which increased rapidly to so great an extent, with writhing and twisting, that it was most difficult to restrain his movements; and though purely automatic, they were expressive of much physical pain.

The breathing was now excessively quick and gasping; the expiratory effort more forcible, and the tongue was frequently protruded from the mouth. The countenance was both bronzed and livid, the pupils were semi-contracted, and less responsive to the stimulus of light.

But little spasm of a tetanic nature was noticed during the convulsions, but when they had reached their climax, as it were from exhaustion, the patient sunk into a state of collapse and coma; the pulse was scarcely perceptible; the eyes remained half open, which, with a remarkable placidity of face, seemed to promise returning consciousness,

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CASE OF

RELAPSING FEVER SIMULATING

CEREBRO-SPINAL FEVER,

(WITH PURPURA.)

consciousness, but this was illusive. Tremor of the muscles, particularly apparent in the calves of the legs, supervened, and the breathing became slow and intermitting, until it finally ceased at 3.15 p.m. exactly three hours after his admission.

Ice had been used with cold affusion; an enema was administered, which acted very quickly, and blistering fluid was applied to the calves of the legs; but the whole period from the accession of active symptoms to the close of the melancholy scene just described, was so short as to preclude all medical interference, except perhaps depletion, though it is doubtful whether this would not have hastened the fatal result.

Autopsy, 19 Hours after Death.—Body robust, and finely formed; skin of a dingy yellowish hue, livid about the face and neck, and the depending parts. The trunk inferiorly, and the thighs, legs, and feet mottled and blotched with sub-cutaneous ecchymoses, or purpura spots, as shown in the figure.

On removing the calvarium, the meninges and brain were found in a highly congested state. The arachnoid was opaque over the hemispheres, and at the base leading to the medulla oblongata, serum was effused in the course of the anfractuosities, and the spinal canal was filled with discoloured serum; but no purulent matter was detected, probably on account of the rapidly fatal nature of the case.

The pia mater presented the same mottled appearance as the skin, and small ecchymotic effusions beneath it were discoverable here and there. The ventricles were congested, but contained only a small amount of serum. The pericardium also contained a little fluid, and both ventricles of the heart were filled with fibrinous clots. The organ in other respects was apparently quite natural, as were also the liver, spleen, and kidneys, though the spleen was perhaps a little larger than usual. The tubular glands of the stomach were congested in patches, particularly at the lesser curvature, and the bladder contained about half a pint of fluid.

Commentary.—On further inquiry it was found that this man had leave from Saturday to Tuesday morning, and again from Tuesday morning about 10 o'clock until Wednesday, living while ashore at Ridge-place, Landport, reputedly a healthy locality. He is, however stated to have spent Saturday night in a low and filthy house in the town. He was present at the Volunteer Review on Easter Monday, in apparently good health and spirits, but on the following morning complained of headache, and his urine was observed to be high-coloured, scanty, and depositing a sediment. In the course of the day, on Tuesday, he accompanied some Dorsetshire Volunteers to the train, and in the evening complained of increasing headache, exhibited much stupidity of manner, and, to obtain relief, dipped his head in a pan of cold water. He returned to his ship on Wednesday, and from this point forwards all the particulars of the case have been already given.

The Inspector General, Sir David Deas, is of opinion that this case was of the same nature as the remarkable disease known as cerebro-spinal fever, from its implicating the meninges of the brain and upper extremity of the cord in true inflammatory action; and

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not in simple hyperæmia, as in typhus and relapsing fever. Two epidemics of cerebro-spinal meningitis are recorded respectively by Dr. Darby and Dr. Mayne, in the "Dublin Journal of Medical Science" for 1846, and in both cases it was almost exclusively confined to youthful subjects.

In France, the disease is said to have appeared for the most part amongst the conscripts who had lately joined their regiments, and Versailles, Lyons, Mentz, Strasburg, Avignon, Nancy, and Poictiers were the places in which it proved most destructive to life.*

Other epidemics of the same nature occurred in the winters of 1864 and 1865, in Dantzic and its neighbourhood, and again in Ireland, in March 1866.

The invasion of this malady is generally sudden, with the following leading symptoms: bilious vomiting, and often diarrhœa, headache, and pains in the limbs, epigastric tenderness and hyperæsthesia; urgent thirst, delirium, eyes suffused, tongue moist but coated, pulse moderate; the early appearance of petechiæ and vibices, on the lower extremities in particular. Retraction of the head, arising from rigidity of the posterior cervical muscles, and the hyperæsthesia are pathognomonic. In fatal cases death supervenes upon convulsions and coma, or coma alone.

The more important post-mortem appearances are those of meningitis, extending from the brain to the cord, with more or less serous effusion, often discoloured with blood, both superficially and in the ventricles, and the presence of lymph or pus beneath the membranes in the cerebral sulci, and impinging on the respiratory tracts and posterior aspect of the medulla oblongata and cord.

Within the last few months several unequivocal cases of cerebro-spinal fever occurred among the recruits of the 11th Depôt Battalion, under the care of Dr. David Cullen, staff surgeon in medical charge, who has made them the subject of a masterly paper read before the Army Medico-Chirurgical Society, Portsmouth. It is of importance to note here, that some of Dr. Cullen's cases exhibited a tendency to relapse after a marked amelioration of the symptoms, and that one case had actually twice suffered relapse.

The epidemic disease, now generally admitted to be quite distinct from typhus, and known as relapsing fever, exhibits, under different circumstances, a great diversity of character, and, when complicated with cerebral symptoms, and attended with convulsions, may be rapidly fatal. Occasional concomitants, auguring badly, are the petechiæ and vibices occurring in the case above detailed. These have also been observed in cerebro-spinal fever, thus rendering the discrimination of the two diseases more difficult. The excessive engorgement of the cerebral vessels and the effusion of serum or blood itself highly charged with urea, would be quite sufficient to account for the cerebral symptoms in the case under comment, without assuming the existence of actual inflammation, neither of the two essential products of which (coagulable lymph, or pus,) having been detected on post-mortem examination.

Though

* *See* Ranking's Abstract, Vol. IV., 1846.

Though hyperæsthesia may be associated with inflammatory action, it is often present without such action in ordinary typhus; but if, as Dr. Murchison says, it is not met with in relapsing fever, we have here another distinguishing feature of cerebro-spinal fever. In this latter malady tetanic spasm is generally present in some form, but usually inducing opisthotonos, more especially involving the extensors of the neck. In relapsing fever the convulsions are of a very different character. It is, however, absolutely necessary to determine whether the vascular fulness observed within the head, post-mortem, is simply congestive, or whether there is evidence of its association with the inflammatory process. Thus, notwithstanding all the cerebral symptoms so frequently present in ordinary typhus, no unequivocal inflammation of the meninges or brain has been recorded by any observer. Hence it would appear as though no connection existed between typhus and cerebro-spinal fever, while there are many points of affinity between the latter complaint and relapsing fever. The sudden accession of the disease, and the nature of the symptoms in the case forming the subject of the present paper, but in particular the early appearance of vibices and of convulsions, at once distinguishing it from typhus, are all in favour of the conclusion that it was one of relapsing fever characterised by unusual severity and terminating fatally in convulsions and coma, just before the period that would have been critical in a milder case.

A review of the foregoing facts and considerations would lead to the inference, that when, as a character of an epidemic, the meningeal congestion of ordinary relapsing fever is heightened into inflammatory action, the disease will assume the form of cerebro-spinal fever.

Fatal Case of Empyema, following a Spear Wound of the Chest; by Surgeon *T. J. Haran*, R.N., in medical charge of the Marine Detachment, Somerset, Cape York, Australia.

13th September 1864 . . . . . æt. 22, private R. M. L. I., was dangerously wounded this morning during a sudden attack by the natives on the encampment at Somerset. A four-pronged fishing spear pierced his right arm through the triceps muscle, and remained firmly fixed in the wound, and a single-headed one struck the left side of the chest, entering near the anterior fold of the axilla, and, taking an oblique direction downwards and inwards, it pierced the wall of the thorax and struck the left lung, burying itself, according to the man's statement, fully six inches in his side. This spear he drew out himself on the spot, and it could not be found afterwards. I drew the spear from the right arm with considerable difficulty. It was fortunately not barbed nor serrated, as most of the native spears are, and had, besides, missed the brachial artery.

The man was very alarmed about himself, and exhibited a great deal of anxiety in his countenance, while the respiration was exceed-

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ingly rapid and spasmodic. He complained of great pain on even touching the injured side of the thorax, and there was slight swelling about the wound in the side, which was very small, and oblique. No external hæmorrhage, hæmoptysis, or cough. Pulse small, quick, and scarcely perceptible. He was removed to a well ventilated and commodious building which, fortunately, had just been completed, and there being a good of collapse, some Spiritus ammoniæ aromaticus, and wine, were administered at stated intervals until partial re-action took place. As soon as he became sufficiently composed, he told me that he felt the spear close to his heart before he pulled it out. Fortunately, none of the great vessels could have been touched, and from the absence of cough and hæmoptysis it is equally probable that the lung could have been only slightly, if at all, injured. During the continuance of the imperfect reaction, which took place, the difficulty of breathing decreased, and it was hoped that no very serious injury had been done, more especially as the spear had taken a course for a considerable distance under the skin, which was observed ecchymosed along the track, and struck the pleura in the fifth intercostal space. After a brief period, however, the respiration became once more accelerated and incomplete, and although there was no dulness nor crepitation which could be detected, it was clear that blood was being effused into the pleural cavity, and within an hour from the infliction of the wound there could be no doubt of it, as the respiration became still more rapid and laboured, the inspiration forced and gasping, and the anxiety and pallor of the countenance increased to a painful extent. A little frothy sanious mucus was then brought up, and it became evident that the lung had not escaped. The damage done to it could not, however, have been serious, as a few expectorations only took place which were tinged with blood. Although he was much exhausted from the hæmorrhage into the pleura, it was considered advisable to perform venesection, but the blood ceased to flow after four ounces had come away, and incomplete syncope occurred. The breathing became more tranquil, and it was hoped that the internal hæmorrhage had ceased. Perfect rest and silence were enjoined during the day, and cold water only allowed to allay his intense thirst. Toward seven p.m. the respirations became again very difficult, and there was well-marked dullness over the back part of the left chest, while the whole left side was exceedingly tender on pressure. Some tough sputa were brought up with great difficulty, and there was much depression with cold clammy perspiration. With a view to relieve the urgent dyspnœa by diminishing somewhat the circulation in the right lung, it was resolved to have recourse to venesection for the second time, although the depression was already great. Three ounces of blood were therefore drawn from the other arm, and as he complained of faintness, and the respiration was relieved by that amount, it was considered hazardous to proceed further, there being so much debility and nervous prostration present, as indicated by tremors of the hands and tongue, and a weak fluttering pulse. One drachm of tincture of hyosciamus was given as a sedative, and with very good effect, as he passed a tolerably fair night, and slept a good deal, notwithstanding the frequent accessions of dyspnœa which disturbed him.

14th.—The

14th.—The respiration became gradually easier as the sound lung accommodated itself to the double work, and he now breathes quite calmly. Bronchial respiration alone can be heard in the left lung. Pulse 130, small. Tongue slightly coated and dark in centre; face blanched, but less anxious. Thirst very great; no cough, nor expectoration. Feels faint occasionally. Skin cool, and bowels open.

Forty minims of Tincture of opium to be taken at bedtime, and repeated if necessary. Barley water, and sago diet.

15th.—Slight paroxysms of dyspnœa set in yesterday evening, and continued during the night, but are now less troublesome. Pulse, 136. Tongue drier, and slightly dark. Left chest dull posteriorly, and for about half its extent anteriorly. When he is semi-recumbent, vocal resonance becomes diminished. Respirations, 56. A good deal of tenderness in pressing over track of spear wound, and some redness externally, and tumefaction from effused blood can be observed and felt around the inferior angle of the scapula, in which situation I also thought I could detect an emphysematous crackling. Respiration in larger bronchi and upper part of left lung, and obscure crepitations lower down. Flush over malar bone when he is horizontal, which disappears when he is placed in the semi-recumbent posture. Bowels very much relaxed, and stools watery, and containing a good deal of bilious matter. He is very much prostrated, and nervously anxious.

Half a drachm of Laudanum at bedtime, to be repeated if necessary. Soup and rice diet.

16th.—Dreamy disturbed snatches of sleep during the night, from which he awoke startled, and with a feeling of impending suffocation. Dyspnœa continues. Pulse 108. No change in other respects since yesterday morning.

Contin. omnia ut heri.

17th.—Complaining all night of severe pain about the angle of scapula (inferior), and across the back, caused, no doubt, by pressure in the diaphragm. Bowels likewise very much relaxed, and the opiate though repeated had no sedative effect. From the general dullness, absence of all respiration excepting bronchial, vocal resonance, external œdema, and general symptoms, there could be no doubt of the existence of hæmothorax to a very great extent; and this being the fourth day from the receipt of the injury, all risk of further hœmorrhage was judged to be over, and an incision was made in consequence between the fifth and sixth ribs, the skin having been previously slipped up so as to leave a valvular opening, and with a small sized trocar, about fifty-five ounces of blood and serum were drawn off. There were no clots. Steady pressure was kept upon the thorax, and the man so held that the incision might be in a dependent position. The blood was ejected in a full continuous stream, and the most marked relief was experienced as it flowed. The respiration became more tranquil in the right lung, and the better aëration of the blood was manifested by the change of colour from livid to red on the lips and cheeks. The moment the blood ceased to flow, additional pressure was made on the chest, and some

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more blood and serum were ejected thereby. The trocar was rapidly removed, the skin slipped over the opening, and the wound effectually closed with plaster, pads, and a body bandage. In withdrawing the trocar, however, a small quantity of air gained admission in spite of every effort, but it was hoped that it would be absorbed without producing further mischief. Respiration became established in the compressed lung to a considerable extent, but its forcible character in the beginning showed the difficulty attending re-expansion of the lung. The relief was very gratifying, but gradually in the course of the day amphoric resonance became established, showing the communication which existed between the lung and the pleura, while metallic tinkling evidenced either serous effusion, or more probably some trickling of blood from the puncture into the pleural cavity. The patient was kept very quiet, and an opiate (Tr. opii, min. xl.) administered immediately after the operation, which procured a few hours refreshing sleep. Cool drinks were ordered during the day, with light slop diet.

Habeat Tinct. opii, min. xl., h. s. et repetat. si opus sit.

18th.—Slept a good deal, but often awoke startled. Pulse 104; respiration tranquil; metallic tinkling and amphoric resonance present. The quantity of air in pleura increased. Still troubled with looseness of bowels and griping. He is in good spirits.

℞ Spts. ammon. arom. min. xx.
Tinct. opii - - min. xv.
Aquæ - - - ad ℥j.
Ft. haustus, pro re nata sumend.
Soup and rice diet.

19th.—Pulse 100, of fair strength. Diarrhœa and griping checked. General aspect improved. Amphoric resonance present, and on raising him to the semi-recumbent position, metallic tinkling and bursting of gaseous bubbles over liquid can be heard. Cannot sleep without an opiate.

Habeat Tinct. opii, min. xl. omni nocte; et repetat si opus sit.
Slop diet; soup, sago, rice, &c.

20th.—Dullness in lower and posterior part of thorax becoming developed. It is partly masked by external œdema and ecchymoses.

Cont. omnia ut heri.

21st.—Complained during the night of occasional feelings of faintness, and coldness of the extremities, which were relieved by small quantities of wine-and-water. To-day there is a good deal of pain in the situation of the left costo-xyphoid notch, and about the apex of the left scapula, and shooting pain through the left chest. Respiration diminished in left lung, and dullness increasing. He is also seized occasionally with sudden paroxysms of coughing, when he expectorates with difficulty tenacious bloody sputa.

Contin. omnia ut heri.
Painful parts of the chest to be dry-cupped.

22nd.—Feels better; circulation languid, as indicated by persistent

sistent ecchymosis where the cupping-glasses were applied. Pulse 108, weaker. Bowels moved about twice daily; stools watery, but entirely fæcal. He has lost flesh to a large extent, but does not feel correspondingly debilitated, and continues in excellent spirits. Felt chilly towards the afternoon, but did not become hot subsequently.

Habeat vin. rub., pro re nata.
Cont. haust. sedativ. omni nocte.
Soup and rice diet.

24th.—Very little respiration in left lung, which is confined to the apex; bronchial breathing in remainder. No friction sound can be detected, although there can be no doubt as to the progress of pleuritic inflammation with effusion.

Contin. omnia ut heri.

26th.—Feels weaker. Pulse 100. Complains of severe pain from apex of scapula round to left nipple and left shoulder. No fever. External wounds healing favourably.

Contin. omnia ut antea.

28th.—Persistent dull pain from scapula round to costal cartilages, and, although there is no fever, there can be no doubt of the existence of sub-acute inflammation of the pleura with progressively increasing effusion; but the severity of the symptoms does not as yet warrant paracentesis. I have therefore resolved to wait and watch symptoms, and ascertain whether, in the event of the effusion being merely serous, nature would be capable of removing it; prepared to tap the chest again, if necessary. Respiration in the right lung remarkably tranquil, and the patient very cheerful and hopeful, although occasionally depressed by accessions of pain and feelings of faintness. He cannot sleep without the opiate. He now gets the best diet that can be procured here, and takes four ounces of wine daily.

Contin. omnia ut antea.

October 2nd.—Going on as well as can be expected since last report, until last night, when the atmosphere, which had been clear and comparatively free from moisture hitherto, became damp and chilly, and no doubt had an injurious effect, as he got chilled, and was seized with paroxysms of spasmodic coughing, and expectoration, after great straining, of tough glairy mucus. Towards morning the paroxysms became more frequent and severe, and the sputa mixed with blood. He was relieved by a sedative expectorant and some wine-and-water, and the cough and expectoration soon ceased. To-day there is no cough; but there is considerable dyspnœa, and the respirations have increased to forty-eight per minute. Pulse 100. Hectic flush on both cheeks, but no pyrexia.

Cont. haust. sedativ. ut antea.
Full diet, and six ounces of wine daily.

3rd.—Last evening paroxysms of cough and difficult expectoration of sanious tenacious sputa returned, but were corrected by a seda-

 tive

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tive expectorant and some wine-and-water, as before, and he slept fairly afterwards; but this morning the cough returned with renewed severity, and the expectoration is glairy, tenacious, and rusty. Respiration relieved after each paroxysm. Cough seems to be caused by the passage of thick sanious mucus from the compressed lung into the trachea, where it produces spasmodic irritation until it is expelled. There is some wheezing with the little respiration carried on by the left lung; but any other pneumonic symptoms capable of being detected by percussion or auscultation are masked completely by the pleuritic effusion.

Cont. omnia ut heri.

4th.—Increased quantity of air in left pleura, owing probably to the violence of the paroxysms of cough. Heart displaced to the right of sternum. Cough continues unabated, with expectoration of blood-streaked, tenacious glairy mucus; and there is a great deal of dyspnœa. Under these circumstances it was determined to make another opening into the left side, and, with the view of avoiding additional injury to the pleura, the site of the former puncture was selected. On introducing the trocar, however, it was found that only a little sanious oozing took place, owing in all probability to the adhesion of the lung to the parietes in this situation; and this opinion was further confirmed by the occurrence of hæmoptysis soon after the puncture was made. The wound was at once closed with adhesive plaster, and, as he strongly objected to further operation at present, nothing more was done, with the exception of administering acid draughts to arrest the hæmoptysis, and an opiate to allay irritation. Both objects were speedily attained, as the hæmoptysis ceased in less than two hours. It was not at all serious at any time, and he became composed in a short time.

Contin. omnia ut antea.

7th.—Very little cough since last report until this morning, when it came on again in distressing paroxysms, with expectoration of blood-streaked mucous shreds. Dullness of left side increasing, with tenderness on pressure and lancinating pain through the chest. Œdema over lower ribs and costal cartilages also on the increase, and reaching as far back as the edge of the latissimus dorsi. Notwithstanding these symptoms, so clearly indicative of empyema, the constitutional symptoms are comparatively mild, and there is very little hectic. He is, however, very much emaciated, and, from continuing in the same position, the skin over the sacrum is very red and tender, while the bowels, from slop diet and constipating effects of the nightly opiate, require a small dose of castor oil to move them every three or four days. Tongue furred. Pulse 108.

Contin. omnia ut antea.

14th.—Very little cough or expectoration since last report; but he is beoming progressively more debilitated and emaciated, while the hectic fever has assumed a typhoid character. The skin is now either harsh and dry, or covered with clammy moisture. Tongue of a dark brown colour and dry, with sordes on the teeth; and pulse 114, small and thready. His allowance of wine

was

was increased on the 8th to eight ounces, and on the 11th to ten ounces daily, with evident benefit; and the best diet suitable for him that can be procured here has been prescribed. He continues in capital spirits, but has hitherto strenuously opposed further operative procedure; but, on hearing to-day that he will not survive more than a few days should the collection of matter on the pleura not be evacuated, he consented. The left side measures eighteen-and-a-half inches in circumference, beneath the nipple, to sixteen inches on the right. A point directly underneath the first puncture, and between the seventh and eighth ribs, was chosen; but no sooner were the preparations for operating completed than he was seized with a violent paroxysm of spasmodic cough, and some dark greenish matters, mixed with clotted blood, was expectorated. This substance looked very like shreds of gangrenous lung, but wanted the offensive odour. Under the circumstances, however, it was considered advisable to defer operating for a time, as, in the event of a recurrence and continuance of such expectoration, and the existence of gangrene, an operation could only accelerate his death.

Contin. omnia ut antea.

17th.—No recurrence of cough nor expectoration of the dark green sputum which took place on the 14th, but he has been complaining frequently of pain in the umbilical region, and the febrile symptoms have been daily assuming more and more of the typhoid character. He was delirious for the first time last night, but he is rational to-day, and although weakened and emaciated to an extreme degree with a weak thready pulse of 120, a dark brown dry tongue, and sordes on the teeth, he continues in excellent spirits. The left side measures 18¾ inches to 16½ on the right, and the respiration in the lower part of the right lung is somewhat obstructed by the pressure of the distended left pleura. As an operation could be deferred no longer, paracentesis was performed at a point between the seventh and eighth ribs, midway between the sternum and the spine. A more dependent and posterior one would have been selected, but it was feared that the compressed lung was pushed back, and would be wounded, and pus not reached, while externally the large amount of œdema posteriorly prevented the intercostal spaces from being clearly defined. Exit was given by the canula to about three pints of offensive sanio-purulent matter, and a large quantity of foul gas. When the matter ceased to flow, steady pressure was maintained, and the most marked relief from the pains in the shoulder, side, and abdomen was experienced while this large collection was escaping. Before removing the canula, the patient was placed so as to make the opening the most dependent point of the chest, and a gum elastic catheter was introduced and secured in the opening, which removed the greater part of the matter lodged below its internal level. For the rest of the day matter continued to drop through the instrument, which had to be frequently removed and cleaned when it became clogged. At night the pulse had fallen to 100, and the patient's spirits, never very low, were much improved. The heart's position, however, continued unchanged, and the left side of the thorax unmoved during inspiration, so that the

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condition of the pleural cavity was only so far altered that the matter evacuated was replaced by air.

Cont. haust. sedativ.
Full diet, and twelve ounces of wine daily.

19th.—Improved in every respect. Pulse ninety-six; tongue cleaning rapidly; no typhoid symptoms; pain of chest greatly diminished; left lung exhibits no tendency to re-expansion, and the greater part of left pleural cavity is filled with air which rushes in when the catheter, which becomes frequently clogged, is removed to be cleared. It is considered advisable to keep a catheter with a cork in it constantly in the wound, not only with the view of draining the abscess, but to prevent the closure of the opening, which shows a strong tendency to contract. Appetite fair.

Cont. omnia ut heri.

29th.—Since last report he has been improving progressively, and the discharge until to-day, though very fœtid, has been gradually diminishing; tongue is much cleaner, and appetite improving. He also sleeps better, but requires a sedative (tinct. opii, min. xxx.) every night. All œdema and ecchymosis have disappeared from left side, and there is very little tenderness on pressure. The bowels are now habitually constipated, and he requires about two drachms of castor oil about every third day, which always acts effectually. This morning, on withdrawing the gum-elastic catheter, about a quart of fœtid sanious pus escaped, which in all probability had been confined by adhesions which then gave way. Left side slowly contracting.

Cont. ut antea.

Nov. 6th.—Since the discharge of matter noticed in last report, the daily quantity drawn off has been gradually diminishing and becoming more healthy, and now rarely exceeds about one ounce. Very slow contraction of left side going on, and the heart is gradually returning to its normal position. The tongue is quite clean, and the appetite very good, but the drain of suppuration prevents him from gaining flesh. Yesterday he was removed from the temporary hospital on the flats to the barracks just completed, which are situated on a plateau at an elevation of seventy feet above the mean tide level. Nightly opiate reduced to tinct. opii, min. xx., and he does not require the castor oil so often, as the bowels are regaining tone slowly, and frequently act without medicine.

Cont. haust. sedativ.
Full diet. Vinum, ℥x.

20th.—The discharge is now quite healthy, and is not beyond an ounce on an average daily. Tongue is quite clean, and appetite very good, but he does not gain flesh. No alteration in other respects since last report.

Cont. omnia ut antea.

Dec. 5th.—On the 25th ultimo he complained of pain and soreness in lower part of left side, and for some days subsequently the discharge

discharge from the pleura was greatly increased in quantity, and became sanious and fœtid. It is now healthy, and reduced to its former average. He does not gain flesh, although his appetite is excellent, but he sleeps without the opiate, and his bowels act without medicine.

Full diet and eight ounces of wine daily.

27th.—Quantity and quality of discharge have varied considerably from time to time since last report, but have been for the most part unfavourable, and for the last ten days he has suffered a good deal from pain in the chest, which he attributes to the catheter. He also perspires profusely every night, without any preceding pyrexia. The discharge is now considerable, and looks like green-pea soup, and is moreover acrid and very fœtid. Appetite not so good, and tongue furred, but he continues in excellent spirits. The weather for the last few days has been close, damp, and sultry. The catheter has been removed, and a tent introduced into the opening to prevent its closure, and the oozing of acrid matter.

Habt. quinæ disulph. gr. ij. ter in die.
Full diet; wine eight ounces, and porter one pint daily.

January 10, 1865.—No material alteration for the better since last report, which is probably owing to the depressing influence of the weather, which is humid and subject to frequent and sudden vicissitudes. Left side flattened and immovable, and measures fifteen and a quarter inches under nipple from spine to sternum, the right being sixteen inches.

Cont. omnia ut antea.

16th.—No change. He is greatly emaciated and very weak, but in excellent spirits. Has a good appetite, and takes a good deal of nourishment besides wine and porter, and does not perspire so much as he did prior to taking quinine. As an opportunity offers for sending him to a cooler climate by Her Majesty's ship Salamander, he was sent on board this day for transmission to the Military Hospital at Sydney.

Continuation of the foregoing case.

Her Majesty's ship Salamander, Sydney. February 21, 1865.

During the passage from Somerset (thirty-four days) to Sydney, he has on the whole gained flesh, strength, and spirits, though a slight bronchitic attack, and the different climates passed through, and especially damp weather, have retarded his recovery. This accounts for the present depression and pyrexia. The generous diet has been continued, with quinine and iron tonics.

(signed) *Alex. Rattray*, M.D., Surgeon.

During this man's stay in hospital he had several variations, similar to the conditions described in the former part of his case.

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For the last few weeks of his life the discharge was considerable, and the emaciation very great, with œdema of the extremities. He sank exhausted on the 21st of April 1865.

The treatment was good nutritious diet, with wine and porter.

(signed) *W. J. Brophy*, F.R.C.S.,
In charge of Troops.

Hospital, Victoria Barracks,
Sydney, New South Wales.

Post-mortem examination twenty-six hours after death.

Body very much emaciated; œdematous swelling of both feet, of the left leg, and left elbow. Fistulous opening between the seventh and eighth ribs of the left side, between the central parts of ribs. Cicatrix of the first opening made between the fourth and fifth ribs. Small cicatrix at the anterior fold of the left axilla.

On opening the left pleura found it thickened, particularly at the upper and inner portion, false membrane over the whole of it, and about eight ounces of pus contained in it. The fistulous opening in the side of the chest communicated by an oblique passage, behind the thickened false membrane, with the pleura. The left lung compressed and fixed to the posterior and internal parts of the left side of the chest. No appearance of wound in the lung or parieties of chest, except that described, could be detected.

Lying loose in the pleura was a piece of bone sharpened at either end, four inches and a third long, and the size round of an ordinary pencil. Some remains of coloured vegetable substance adhered to it. This was evidently the bone attached to the spear with which he had been wounded, and which was pulled off from the spear, when he pulled that from his chest.

The liver was large, light coloured, and soft. No other morbid appearance seen.

A true copy.

(signed) *W. J. Brophy*,
Surgeon in charge of Troops.

The unfortunate termination of this case is fully accounted for by the piece of bone spear-head found after death in the cavity of the pleura. How well it explains those periods of delusive amendments when, in all probability, it was bound down by adhesions, and the intervening periods of acute suffering, when it lay loose and by its points kept up constant irritation, until at last the poor fellow, hopeful to the last, though a living skeleton, died of pure exhaustion. Had he allowed the spear to remain in the wound until the medical officer arrived, and not forcibly dragged it out himself, or had a point of the spear-head appeared at any time between the ribs, where it could be extracted,—a very possible contingency,—the termination would probably have been altogether different.

AUSTRALIAN SPEARHEAD.

(Natural size)

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